ATTACHMENT 2 BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

MONITORING WELL COMPLETION SUMMARY

WELL NO .: GLA-1

PAGE: 1 OF 1

300 -

JOB NO.: 9539
PROJECT: PROPOSED SAN DIEGO COUNTY LANDFILL
LOCATION: GREGORY CANYON, PALA AREA
INSPECTOR: T. REEDER
CHECKED BY: T. REEDER

ELEVATION GROUND LEVEL: 342.5 feet ELEVATION TOP OF CASING: 343.72 feet DATE STARTED: 11/19/96 DATE FINISHED: 11/20/96 TOTAL DEPTH: 300 feet

	1 [T		·····	·····		
			DRILL	ING SUMMARY:	Wf	ELL CONST	RUCTI	ON L	_0G:	
0		Total De					Date Sta	rt Time	Date Fini	Time
		Borehole Driller:		er: 5.5 inches O.D. Pristensen	Drilling:		11/19/96	10:12	11/20/96	9:07
5 —			·		Coring:		-	-	-	-
		1 -		ALL REVERSE BUTTON BIT	Ream:		_	-	_	-
5		B11(S): C	AKDIDE E	SOTION BIL	Geophy	s. Logging:	12/13/96	_	12/13/96	-
10 ——		Drilling F	luid: A	sir	Casing	install:	11/19/96	10:36	11/19/96	12:14
		Protecti	ve Casi	ng: N/A	1	lacement:	_	-	-	-
					Seal Pl	acement:	-	-	-	-
15		WELL	CON	STRUCTION DETAILS:	Seal Pl	acement 2nd:	-	-	-	-
									,	
20			Casin		W	ELL DEVEL	OPME	NT L	.0G:	
******			_	threaded, Schedule 40 PVC (boring reamed to 8—inch			,	Date	Stort Time	Finish Time
				diameter prior to placement of casing).	Surge B	ock			<u> </u>	
25				(From +1.22 to 20 feet.)	Air Lif	t Pumping				
_		177	Scree	en: NONE - OPEN HOLE.	Bail					
	经验		.	(From 20 to 300 feet.)	Total (Gallons Remov	ed:			
30		7////	Bentor	ite Seal: Bentonite pellets.	ST	ABILIZATIO	ON TES	ST D	ΔΤΔ:	
	<u> </u>		_	(From 3 to 20 feet.)	Gallons		pec. Cond.		Temp	(*F)
270		经验验	Filter	Pack: NONE - FRACTURED ROCK.						
			_							
	《《经验》			ıal Soil.						
275	經路經		¥ (From	0 to 10 feet.)						
				MPOSED ROCK.						
	遊路游	EN STATE	의 (From	10 to 20 feet.)	Comm	ents:				
280	淡湖淡	10000	g Portlo	ind Type II cement with bentonite. 1 0 to 3 feet.)	O O HINII	~~~				
	《经路》		별 (From	0 to 3 feet.)						
285 ———	经路路									
444 5747	經濟學									
	经路线	W	ELL M	MONITORING DATA:						
290	· · · · · · · · · · · · · · · · · · ·	Date	Time	Reading	Corr.	Depth		SWL	B)	
	经规模	11/20	6:30	99.5'	1.5'	234'	2	35.5'	יד ו	SR
	淡湖溪	12/16		37.1'	1.5'	296.4	2	97.9'	1	T
295	美洲教									.=

MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-2

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: PROPOSED SAN DIEGO COUNTY LANDFILL
LOCATION: GREGORY CANYON, PALA AREA
INSPECTOR: T. REEDER
CHECKED BY: T. REEDER

ELEVATION GROUND LEVEL: 377.1 feet ELEVATION TOP OF CASING: 379.45 feet DATE STARTED: 11/18/96 DATE FINISHED: 11/19/96 TOTAL DEPTH: 250 feet

		DR	RILLING SUMMARY:	WELL C	ONST	RUCTIO	ON L	.og:	
0 ——		Total Depth:			ı	Star Date i	rt Time	Fini Date	sh Time
		Borehole dia	meter: 5.5 inches O.D. rne Cristensen	Drilling:		11/18/96	11:20	11/19/96	8:19
5		Dimer. Luy	THE STATEMENT	Coring:		-	_		-
			L WALL REVERSE DE BUTTON BIT	Ream:		-	-	-	_
		Bif(s): CARB	INF BOLLOW BIL	Geophys. Loggi	ng:	12/12/96	-	12/12/96	
10		Orilling Fluid	: Air	Casing Install:		11/18/96	11:50	11/18/96	12:48
******	淡湖 淡	Protective C	Casing: N/A ,	Filter Placemen		-	-	-	-
15 ——				Seal Placement			-	-	_
		WELL C	ONSTRUCTION DETAILS:	Seal Placement	l 2nd:	_	-	_	
	經過經濟								
20	经路线	c	asing: 6—inch diameter, flush threaded, Schedule 40 PVC	WELL C	EVEL	OPME	NT I		د . د . د د
	淡路悠		(boring reamed to 8—inch				Date	Start Time	Finish Time
			diameter prior to placement of casing).	Surge Block					
25	经验验		(From +2.35 to 10 feet.)	Air Lift Pump	ıng				
***************************************		s s	creen: NONE - OPEN HOLE. (From 10 to 250 feet.)	Bail Caller	Dage			1	
30	经路线		, , , , , , , , , , , , , , , , , , , ,	Total Gallons					
	多多数多数	В В	ententte Seal: Bentonite pellets. (From 3 to 10 feet.)	STABILI		ON TES pec. Cond.	ST D	ATA:	(°F)
	1888 B		·			,			
220 ——	淡湖淡	包数数 F	Filter Pack: NONE - FRACTURED ROCK.						
	淡烟淡				 	, ,			
225 ———	经保险		Residual Soil. From 0 to 5 feet.)						
		1	·						
	多数数	P P	Portland Type II cement with bentonite. From 0 to 3 feet.)	Comments:					
230	透網鎖	'	·······	Comments:					
<u> </u>	談閣談								
235 ——	经的经								
_ 	经路路								
	添锅蒸		L MONITORING DATA:				6 1117	_	
240 ——	珍麗袋		Reading	Corr.	Depth 100'		SWF	B	
	談器談		40 127.5'	1.5'	126'		247.5° 270°		SR SR
	经的数		:05 105'		103.5'		270 301.2'		SR
245 	经路路		1:03 73.8'	1.5'	72.3' 68.23'		05.27 ¹		TT 244
	※※路袋	12/16 -	- 69.73'	1.0	00.23		00.27		
ı	くなって相切ってい	1]	i i		1		1	

MONITORING WELL COMPLETION SUMMARY

WELL NO.:

GLA-2

PAGE: 1 OF 1

JOB NO.: 9539

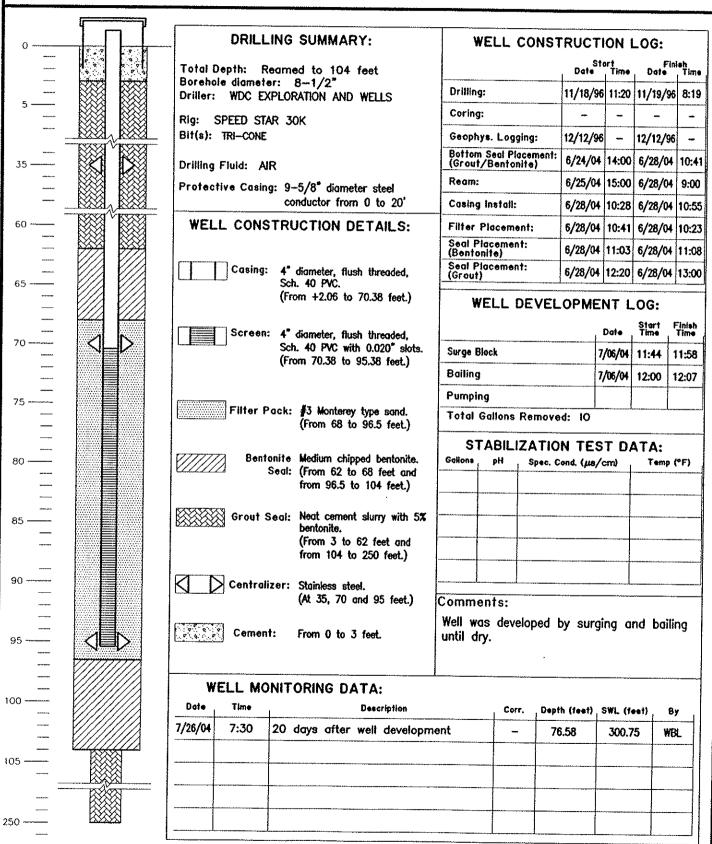
PROJECT: GREGORY CANYON LANDFILL LOCATION: GREGORY CANYON, PALA, CA

INSPECTOR: W. LOPEZ, CHG CHECKED BY: W. LOPEZ, CHG

ELEVATION GROUND LEVEL: 377.33 ELEVATION TOP OF CASING:

379.39 DATE STARTED: 6/25/04

DATE FINISHED: 6/28/04 TOTAL DEPTH: 95.38 feet



MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-3

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: PROPOSED SAN DIEGO COUNTY LANDFILL
LOCATION: GREGORY CANYON, PALA AREA
INSPECTOR: T. REEDER
CHECKED BY: T. REEDER

ELEVATION GROUND LEVEL: 330.6 feet ELEVATION TOP OF CASING: 332.02 feet DATE STARTED: 11/25/96 DATE FINISHED: 11/26/96 TOTAL DEPTH: 150 feet

		DRILLING SUN	MMARY:	WELL C	ONST	RUCTIO	ON L	_0G:	
0 ——	120 EST	Total Depth: 150 feet				Sta Date	rt Time	Fini Date	sh Time
5		Borehole diameter: 5.5 inc Driller: Layne Cristensen	hes O.D.	Drilling:		11/25/96	12:15	11/26/96	
		Dimer: Layne Cristensen		Coring:		-	_	_	
		Rig: DUAL WALL REVE	RSE	Ream:		-		<u>-</u>	
		Bit(s): CARBIDE BUTTON BIT		Geophys. Loggi	ng:	12/14/96		12/14/96	_
10 —		Drilling Fluid: Air		Casing Install:		11/25/96	12:45	11/25/96	15:33
		Protective Casing: N/A		Filter Placemer	nt:	-	-	_	-
				Seal Placement	l:	-	_	-	_
15		WELL CONSTRUCT	ION DETAILS:	Seal Placement	l 2nd:	-	_	_	-
							.	1	
20 —			diameter, flush	WELL C	EVEL	OPME	NT L	_OG:	
			ed, Schedule 40 PVC reamed to 8—inch			,	Date	Start , Time ,	Finish Time
		diamet	er prior to ent of casing).	Surge Block					
25			+1.42 to 45 feet.)	Air Lift Pump	ing				
		Caraon, MONE	ADEN HALE	Bail					
		Screen: NONE (From	- OPEN HOLE. 45 to 150 feet.)	Total Gallons	Remove				
30 ——				STABILI	ZATIC	N TES	ST D	ATA:	
		Bentonite Seal: Bo	entonite pellets. From 3 to 45 feet.)	Gallons pH		ec. Cond.		Temp	(°F)
35			Tom o to lo rotay						
		Filter Pack: N	ONE - FRACTURED ROCK.						
40		ALLUVIUM/COLLUV (From 0 to 30 f	/IUM.						
		(From 0 to 30 i	eet.)						
		DECOMPOSED RO (From 30 to 45		Comments:					
45 ——	淡湖鉄	(11011 50 to 45	•	Jonanion 3.					
_	多数据 多数	Portland Type II (From 0 to 3 fe	cement with bentonite.						
50	多数数	THOM U TO 3 18	···· <i>)</i>						
	深層深	WELL MONITOR	ING DATA:						
40		Date Time	Reading	Corr.	Depth		SWL	- By	
		11/26 6:45	21'	1.5'	19.5'		309'	T.	SR
		12/16 -	23.84'	1.5'	22.34'	3(06.16'	<u> </u>	<u>L</u>
145	参照数								
	多数的数 数								
*******	经路径								
150 ——	经经验经验								

MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-4

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: PROPOSED SAN DIEGO COUNTY LANDFILL
LOCATION: GREGORY CANYON, PALA AREA
INSPECTOR: T. REEDER/M. VINCENT
CHECKED BY: T. REEDER

ELEVATION GROUND LEVEL: 904.9 feet ELEVATION TOP OF CASING: 904.99 feet DATE STARTED: 11/26/96 DATE FINISHED: 11/27/96 TOTAL DEPTH: 240 feet

			DRILLI	NG SUMMARY:	WELL	CONST	RUCTI	ON L	.0G:	
0 —	138 38	Total De					Sta Date	rt Time	Fini Date	sh Time
5 —		Borehole Driller:		r: 5.5 inches O.D. istensen	Drilling:		11/26/96	-	11/27/96	11:08
5 ——			,		Coring:		_	-	~	
		Rig: D Bit(s): C		LL REVERSE	Ream:		-	_	_	_
		DII(\$): L	אתסוטב טט	HON DH	Geophys. Lo	gging:	12/17/96	_	12/17/96	_
01		Drilling F	luid: Air		Casing Insta	ıll:	11/26/96	-	11/26/96	-
		Protectiv	re Casing	ı: N/A	Filter Place		-	-	-	-
 					Seal Placem		-	-	_	-
5		WELL	. CONS	TRUCTION DETAILS:	Seal Placem	nent 2nd:	-	-		_
0			Casing:	: 6-inch diameter, flush	WELL	_ DEVE	LOPME	NT L	.OG:	
		<u> </u>	j.	threaded, Schedule 40 PVC (boring reamed to 8-inch	L			Date	Start Time	Finis Time
				diameter prior to placement	Surge Block					
5				of casing). (From +0.09 to 30 feet.)	Air Lift Pu	mping			 	
			7 A	,	Bail			·····-	+	
			Screen	: NONE - OPEN HOLE. (From 30 to 240 feet.)	Total Gallo	ns Remov	ed:		1 1	
0 —	系統的系統				CTAC	リック・エン・	ON TEC	<u> </u>	ATA	
******	<u> </u>		Bentonite	e Seal: Bentonite pellets.	Galtons, pH	ILIZATIO	ON IES Spec. Cond.		AIA: , Temp	(°F)
0	淡湖 淡			(From 3 to 30 feet.)					 	
	淡路悠 悠	逐逐	Filter	Pack: NONE - FRACTURED ROCK.					1	
	談閣談								1	
5 —	《经路》		g Residua	l Soil.						•
	紫褐绿绿	10XVXV	∠ (From (0 to 10 feet.)						
	經濟經	[29:0929:09]	3 Portland	1 Type II cement with bentonite.						
0	經濟學		ថ្មី (From (0 to 3 feet.)	Comment	s:		_		
	※約的 ※									
	浴網 絲									
5 ——	淡湖 线									
	多数超级	w	FII M	ONITORING DATA:	<u> </u>					
	多数数数	Date ,	Time ,	Reading	Corr.	Depth		SWL	, By	
	经的数	12/02	6:55	103.2'	1.5'	101.7'		01.8'		SR
	经路路	12/16		149.93'	1.5'	148.43		55.07'		1. 1
	發的際	12/10	-	Percei	1.0	170.70			-	
	經過經			1						
	經濟學									
_	约为亿亿公	1 1	'							

MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-5

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: PROPOSED SAN DIEGO COUNTY LANDFILL
LOCATION: GREGORY CANYON, PALA AREA
INSPECTOR: T. REEDER
CHECKED BY: T. REEDER

ELEVATION GROUND LEVEL: 927.1 feet ELEVATION TOP OF CASING: 927.92 feet DATE STARTED: 11/20/96 DATE FINISHED: 11/21/96 TOTAL DEPTH: 190 feet

		DRILL	ING SUMMARY:	WELL	CONST	RUCTI	ON L	OG:	
0 ——		Total Depth: 19	0 feet			Sta Date	rt Time	Fini Date	sh Time
		Borehole diamet Driller: Layne C	er: 5.5 Inches O.D.	Drilling:		11/20/96	11:20	11/21/96	9:47
5		Dimer. Layno	11370113011	Coring:		-		-	-
		1 -	ALL REVERSE	Ream:				-	-
MAN TANK		Bit(s): CARBIDE B	OTION BII	Geophys, Log	ging:	12/16/96	_	12/16/96	
10 —		Driffing Fluid: A	ir	Casing Install	:	11/20/96	_	11/20/96	15:57
		Protective Casir	ng: N/A	Filter Placem	ent:	-	-	-	-
				Seal Placeme	nt:	_	-	-	-
5		WELL CON	STRUCTION DETAILS:	Seal Placeme	nt 2nd:	<u> </u>	-	~	
20		Cosin	g: 6—inch diameter, flush threaded, Schedule 40 PVC (boring reamed to 8—inch	WELL	DEVE	LOPME	NT I		Finist Time
*****			diameter prior to placement	Surge Block				1	
25			of casing). (From +0.82 to 30 feet.)	Air Lift Pun	aping				
				Bail					
_		Scree	on: NONE — OPEN HOLE. (From 30 to 190 feet.)	Total Gallon	s Remov	ed:		.l	
35			ite Seal: Bentonite pellets. (From 3 to 30 feet.) Pack: NONE - FRACTURED ROCK.	STABI Gallons pH		ON TES		Temp	(°F)
55		COLLL.	VIUM/Residual Soil. 0 to 15 feet.)						
70		(From	MPOSED ROCK. 15 to 25 feet.)	Comments	*	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,		
75 —		Portla (From	nd Type II cement with bentonite. 0 to 3 feet.)						
_	经路路	WELL N	MONITORING DATA:						
80	經過經	Date Time	Reading	Corr.	Depth		SWL	8)	<i>i</i>
	经验的	11/21 6:30	41'	1.5'	39,5'		889*	T	SR
	浴路 絲	12/16 -	42.57'	1.5'	41.07	' 8	87.43'	- 1	1
85 —									
90				· · · · · · · · · · · · · · · · · · ·					

MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-7

PAGE: 1 OF 1

JOB NO.: 9539

CHECKED BY: T. REEDER

LOCATION: GREGORY CANYON, PALA AREA

INSPECTOR: T. REEDER

PROJECT: PROPOSED SAN DIEGO COUNTY LANDFILL

ELEVATION GROUND LEVEL: 401.6 feet ELEVATION TOP OF CASING:

402.85 feet

DATE STARTED: 11/21/96 DATE FINISHED: 11/22/96 TOTAL DEPTH: 160 feet DATE STARTED: DATE FINISHED:

DRILLING SUMMARY: **WELL CONSTRUCTION LOG:** Start Date Time Finish Date Time Total Depth: 160 feet Borehole diameter: 5.5 inches O.D. Drilling: 11/21/96 13:55 11/22/96 10:21 Driller: Layne Cristensen Coring: **DUAL WALL REVERSE** Ream: Bit(s): CARBIDE BUTTON BIT Geophys. Logging: 12/19/96 12/19/96 Drilling Fluid: Air Casing Install: 11/21/96 11/21/96 Filter Placement: Protective Casing: N/A Seal Placement: WELL CONSTRUCTION DETAILS: Seal Placement 2nd: WELL DEVELOPMENT LOG: Casing: 6-inch diameter, flush threaded, Schedule 40 PVC Finish Time (boring reamed to 8-inch Date diameter prior to placement Surge Block of casing). (From +1.25 to 30 feet.) Air Lift Pumping Bail Screen: NONE - OPEN HOLE. Total Gallons Removed: (From 30 to 160 feet.) STABILIZATION TEST DATA: Bentonite Seal: Bentonite pellets. Gallons Spec. Cond. pΗ Temp (°F) (From 3 to 30 feet.) 区长沙兰 Filter Pack: NONE - FRACTURED ROCK. COLLUVIUM. (From 0 to 10 feet.) DECOMPOSED ROCK. (From 10 to 30 feet.) Comments: Portland Type II cement with bentonite. (From 0 to 3 feet.) **WELL MONITORING DATA:** Date Time Reading Corr. SWL Depth Вy 12/16 34.82 1.5' 33.32 TSR

MONITORING WELL COMPLETION SUMMARY

WELL NO .: GLA-8

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: PROPOSED SAN DIEGO COUNTY LANDFILL
LOCATION: GREGORY CANYON, PALA AREA
INSPECTOR: M. VINCENT/T. REEDER
CHECKED BY: T. REEDER

ELEVATION GROUND LEVEL: 632.7 feet ELEVATION TOP OF CASING: 633.11 feet DATE STARTED: 11/24/96 DATE FINISHED: 11/25/96 TOTAL DEPTH: 300 feet

_			DRILLI	NG SUMMARY:	WELL	CONST	TRUCTI	ON I	_0G:	
0			pth: 300				Sta Date	rt Time	Fl Date	nish , Time ,
			diameter Layne Cris	: 5.5 inches O.D. stensen	Drilling:		11/24/96	9:20	11/25/9	6 11:17
5			, -		Coring:		-	-	-	-
		, -	OUAL WAL	L REVERSE	Ream:		-	-	-	-
		DH(8): G	שייטוטכ 100	ION DH	Geophys. Lo	gging:	12/18/96	_	12/18/9	6 –
10		Drilling F	luid: Air		Casing instal	ll:	11/24/96		11/24/9	6 –
		Protectiv	e Casing:	N/A	Filter Placer		-	_	-	-
 15					Seal Placem		_	-	_	_
	多数路线	WELL	. CONST	TRUCTION DETAILS:	Seal Placem	ent 2nd:		-	_	_
	淡海 紫									
20	淡湖 红红		Casing:	6—inch diameter, flush threaded, Schedule 40 PVC	WELL	DEVE	OPME	NT L		
	经路线			(boring reamed to 8—inch				Date	Start Time	Finish Time
25 ——	经路线			diameter prior to placement of casing).	Surge Block					
	经数据			(From +1.41 to 15 feet.)	Air Lift Pur	nping				
	淡锅淡	777	Screen:	NONE - OPEN HOLE.	Bail					
30	多類類			(From 15 to 300 feet.)	Total Gallor	ns Remov	ed:			
	经验	7/////	Bentonite	Seal: Bentonite pellets.	1	LIZATIO		T D		
	TO THE SECOND		-	(From 3 to 15 feet.)	Gallons pH	- s	pec. Cond.		Tem) (°F)
270 ——	浴網瓷	医	Filter P	ack: NONE - FRACTURED ROCK.					 	
275	逐路 級	2000年代		OSED ROCK. to 15 feet.)						
	经验验		- (11081 0	to 10 leet.						
	经验验		Portland (From 0	Type II cement with bentonite. to 3 feet.)					<u>l</u>	
280 ——			(1.5111.0		Comments	:				
	淡湖 绿									
285	逐過經濟									
	\$\$ \$\$ \$\$									
	\$\$ \$ \$\$\$	WE	ELL MO	NITORING DATA:			-			
290		Date	Time	Reading	Corr.	Depth		SWL.	B	
	透鏡鏡	11/25	6:45	61'	1.5'	59.5'		559'	T	SR
	淡湖 较	12/16	-	62.40*	1.5'	60.9'	5	57.6'		1.
295	经验验			,		ļ		·····		
	经路线									
300	经验的									
	长6条6条6条6	L						~		

MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-9

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: PROPOSED SAN DIEGO COUNTY LANDFILL
LOCATION: GREGORY CANYON, PALA AREA
INSPECTOR: M. VINCENT/T. REEDER
CHECKED BY: T. REEDER

300 ---

ELEVATION GROUND LEVEL: 615.4 feet ELEVATION TOP OF CASING: 615.61 feet DATE STARTED: 12/05/96 DATE FINISHED: 12/07/96 TOTAL DEPTH: 300 feet

			DRILLIN	IG SUMMARY:	WELL	CONST	RUCH	ONL	.OG:	
		Total Dei	pth: 300	feet	1		Star Date 1	rt Time	Fin Date	lsh Tim
		Borehole		5.5 inches O.D.	Drilling:		12/05/96	_	12/07/96	8:5
		Driner:	Lujue CHS	100000	Coring:		-	-	_	-
_		1 -		L REVERSE	Ream:		-	-	-	<u> </u>
		Bit(s): G	arbide but	TON BIT	Geophys. Lo	gging:	N/A	_	N/A	-
)		Drilling F	luid: Air		Casing insta	ıll:	_	-	-	-
		Protectiv	re Casing:	N/A	Filter Place	ment:	-	-	_	† -
			o ovnigi	.,	Seal Placen	rent:	-	-	_	1-
-—-		WELL	CONST	RUCTION DETAILS:	Seal Placen	nent 2nd:	-	-		
		***************************************						l		1
)			Casing:	6—inch diameter, flush	WELI	DEVE	LOPME	NT I	_0G:	
	经的经		J 240,119.	threaded, Schedule 40 PVC (boring reamed to 8-inch				Date	Stort Time	Finie
	淡湖溪			diameter prior to placement	Surge Block					
5	彩報 验			of casing). (From +0.21 to 20 feet.)	Air Lift Pu	ımping			1	
	淡湖溪		.	,	Bail				 	
			Screen:	NONE - OPEN HOLE. (From 20 to 300 feet.)	Total Galla	ns Remov	red:		1	
	经内容		-		STAB	ILIZATI	ON TES	ST D	ATA:	
	<u> </u>		Bentonite	Seal: Bentonite pellets. (From 3 to 20 feet.)	Gallons pl		Spec. Cond.		Temp	(°F
0	淡湖 紫	F=\:\tau=\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	a	•						
	经路级		Filter P	ack: NONE - FRACTURED ROCK.						
	经路路		- DECC. 151	OCEN PAGE						·
5	經過經			OSED ROCK. to 20 feet.)						
	经验		•	•						
	浴閣総	18484	3Portland り(From 0	Type II cement with bentonite. to 3 feet.)	Comment	s:				
0	淡湖淡	1	•	•	Johnnon	٠.				
-	淡路 级									
	经路路经									
	经的数数							····		
	多数图象	W	ELL MO	NITORING DATA:						
0	察路路經	Date	Time	Reading	Corr.	Depth		SWL.	В	y
	經過經	12/07	8:57	DRY	1.5*	N/A		N/A	1	SR
	多類於	12/16	_	DRY	1.5'	N/A		N/A		lL
******	- スペッスをおおりくくなく		······································			· · · · · · · · · · · · · · · · · · ·				

MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-10

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: PROPOSED SAN DIEGO COUNTY LANDFILL
LOCATION: GREGORY CANYON, PALA AREA
INSPECTOR: M. VINCENT/T. REEDER
CHECKED BY: T. REEDER

ELEVATION GROUND LEVEL: 324.6 feet ELEVATION TOP OF CASING: 326.59 feet DATE STARTED: 12/03/96 DATE FINISHED: 12/05/96 TOTAL DEPTH: 150 feet

		lian	LING SUMMARY:	WELL	CONST	RUCTI	ON I	OG.	
0			EINO GOMMANT.	""	CONG	Sta Date		Fini Date	ish
	38 8 8	Total Depth: 1. Borehole diame	50 feet ter: 5.5 inches O.D.						
		Driller: Layne		Drilling:		12/03/96	11:57	12/05/96	11:06
5 ——		Die Dial V	NALI DEVERSE	Coring:					
		Rig: DUAL V Bit(s): CARBIDE	VALL REVERSE BUTTON BIT	Ream:		-	_	_	-
				Geophys. Lo		12/15/96		12/15/96	
10		Drilling Fluid:	Air	Casing Instal	H:	12/03/96	-	12/03/96	-
_		Protective Cas	ing: N/A	Filter Placer		-	-	-	
15				Seal Placem		_	-	_	<u> </u>
		MELL CON	ISTRUCTION DETAILS:	Seal Placem	ent 2nd:		-	-	-
			,		,,				
20		Casi	ng: 6-inch diameter, flush	WELL	. DEVE	LOPME	NT I	LOG:	
			threaded, Schedule 40 PVC (boring reamed to 8—inch			I	Date	Start Time	Finis Time
			diameter prior to placement of casing).	Surge Block					
25 ——			(From +1.99 to 50 feet.)	Air Lift Pu	mping				
		Sere Sere	en: NONE - OPEN HOLE.	Bail					
		Scre	(From 50 to 150 feet.)	Total Gallor	ns Remov	ed:	• • • • • • • • • • • • • • • • • • • •		
30				STAR	LIZATI	ON TES	ST D	ΔΤΔ٠	
		Bento	onite Seal: Bentonite pellets. (From 3 to 50 feet.)	Gallons PH		pec. Cond.	, ,	l Lemb	(°F)
35									
		区约约 Filte	er Pack: NONE - FRACTURED ROCK.						
40		COLL (From	.UMUM. n 0 to 33 feet.)						
		(From	ii u to oo reet.)						
*******		1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	DMPOSED ROCK.					1	
45		(From	m 33 to 50 feet.)	Comments	3 :				
_		Portl	and Type II cement with bentonite.						
		(From	m 0 to 3 feet.)						
50	一些细胞								
		WELL	MONITORING DATA:						
140 —	5/5/8/5/5	Date Time	Reading	Corr.	Depth	\$	SWL.	, B)	,
. 10	多数的数	12/03 -	17'	2'	15'	,	308,	,	₩
	系統統	12/16 -	22.2'	2'	20.2'	3	00.8		T
145	一级的线线								
	※※解※	:							

		. 1				1			

MONITORING WELL COMPLETION SUMMARY

WELL NO .: GLA-11

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: DETECTION MONITORING PROGRAM
LOCATION: GREGORY CANYON LANDFILL
INSPECTOR: W. LOPEZ, CEG
CHECKED BY: S. BATTELLE, CHG

ELEVATION GROUND LEVEL: 775.22 ELEVATION TOP OF CASING: 777.32 DATE STARTED: 11/30/99 DATE FINISHED: 12/02/99 TOTAL DEPTH: 242.5 feet

		DRILLING SUMMARY:	WELL CONST			.OG:	
0 —		Total Depth: 243 feet		Star Date	† Time	Fin Date	ish Time
		Borehole diameter: 6.5"	Drilling:	1		11/30/99	15:27
10		Driller: Water Development Corporation	Coring:	-	-		-
		Rig: Dresser T-70	Casing Install:	12/1/99	16:00	12/1/99	16:33
		Bit(s): Downhole Hammer	Filter Placement:	12/1/99	16:37	12/1/99	16:44
20 —		Drilling Fluid: Air	Seal Placement: (Bentonite Chips)	12/1/99	16:44	12/1/99	16:58
		Protective Casing: None	Seal Placement 2nd: (Grout)	12/2/99	10:41	12/2/99	11:10
*******		Try to Commig. Home					
150		WELL CONSTRUCTION DETAILS:					
				II.			1
		Casing: 2" diameter Sch. 40 PVC	WELL DEVEL	OPMEN	NT L	OG:	
160		with flush threaded joints. (From +2.1 to 202.5 feet.)			Date .	Stort Time	Finish Time
			Surge Block			11:10	11:50
170 —		Screen: 2" diameter Sch. 40 PVC with 0.020" slots and flush	Air Lift Pumping		, , , , , ,		
		threaded joints. (From 202.5 to 242.5 feet.)	Other - Bailer	12	/7/00	11:50	16:30
		(1011 202.0 to 242.0 100.)	Total Gallons Remov		,,,,,,	1,20	,00
180 ——		Grout Seal: Portland type I-II neat					
-		cement with 5% bentonite. (From 2 to 181.0 feet.)	STABILIZATIO	ON TES	T D	ATA:	
		(1788) 2.12 (2.13)	Gallons pH S	pec. Cond.		Temp	(°F)
190 ——		Bentonite Medium bentonite chips. Seal: (From 181.0 to 195.0 feet.)					
		(From 181.0 to 195.0 feet.)					
200							
		Filter Pack: #3 Monterey Sand. (From 195 to 243 feet.)					
		(10th 155 to 245 166th)					
210 —		Centralizer: Stainless steel.	Comments:				
		(At 202 and 242 feet.)					
	MANNY MANNY						
220 —		Concrete					
		WELL MONITORING DATA.	<u> </u>				
		WELL MONITORING DATA: Date Time Reading	Corr. Depth	, S	WL.	Ву	•
230			231' bg			WE	
		11/30/99 16:30	191.5' b			WE	
		12/07/99 11:10	tal'o b	ya		77.5	
240							
						-	
250 —							
200							

MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-12

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: DETECTION MONITORING PROGRAM LOCATION: GREGORY CANYON LANDFILL INSPECTOR: W. LOPEZ, CEG CHECKED BY: S. BATTELLE, CHG

ELEVATION GROUND LEVEL: 343.91
ELEVATION TOP OF CASING: 345.79
DATE STARTED: 11/24/99
DATE FINISHED: 11/24/99
TOTAL DEPTH: 52 feet

		7	DRILLIN	G SUMMARY:	WELL CO	NSTRUCT	rion i	.OG:	
0			Total Depth: 66 f	eet		Date	itart Time	Fir Date	lish Time
			Borehole diameter:	6-5/8"	Drilling:	-	-	_	-
			Driller: Water Dev	velopment Corporation	Coring:	-	-		-
5 —			Rig: Dresser T-	-70	Casing Install:	11/24/	9 15:03	11/24/99	15:09
*******			Bit(s): Tri-cone/Do	ownnole Hammer	Filter Placement:	1 ' '		11/24/99	1 11
10			Drilling Fluid: Air		Seal Placement: (Bentonite Chips)	11/24/	14:58 15:15	11/24/99	15:03 15:16
_			Protective Casing:	9-7/8" ø steel.	Seal Placement 2: (Grout)	4		11/24/99	1 15
20 —			WELL CONCT	DUCTION DETAIL C.					
			WELL CONSTI	RUCTION DETAILS:					
25			Casing:	2" diameter Sch. 40 PVC with flush threaded joints. (From +1.88 to 32 feet.)	WELL DE	VELOPM	ENT L	OG:	Finish
				(FIDER +1.00 to 52 166t.)			Date	Tim⊕	Finish Time
 	<i>122</i> 4		Screen:	2" diarneter Sch. 40 PVC with 0.020" slots and flush	Surge Block Air Lift Pumping		12/7/99	7:20	8:05
30		The second secon		threaded joints.	Other - Bailer		an to to-	6.05	10.70
		>		(From 32 to 52 feet.)	Total Gallons Re	moved: 4	12/7/99 O	8:05	10:30
35			Grout Seal:	Portland type I—II neat cement with 5% bentonite.					
				(From 2 to 23 feet.)	STABILIZA				
40			7777777 Rentonite	Medium bentonite chips.	Gallons PH	Spec. Con	a.	(0 m)	· (*F)
		A CONTRACTOR AND A CONT	Seal:	(From 23 to 29 feet and					
				from 53 to 66 feet.)					
45			Filter Pack:	#3 Monterey Sand. (From 29 to 53 feet.)	6.				
				•	C				
50		S	Centralizer:	Stainless steel. (At 32 and 52 feet.)	Comments:				
			Concrete						
								,,	
			1	NITORING DATA:	Corr. De	n. 4 h	SWL	, B)	,
60 ——			11/24/99 13:00	vezoud		' bgs			BL
			12/07/99 7:20			bys I'bgs			BL
			12/01/33 7.20		33.0			1	
65 	VIII.								
							~~~~		
70 <del></del>									
, 0									

#### MONITORING WELL COMPLETION SUMMARY

WELL NO .: GLA-13

PAGE: 1 OF 1

JOB NO.: 9539

PROJECT: DETECTION MONITORING PROGRAM

LOCATION: GREGORY CANYON LANDFILL INSPECTOR: W. LOPEZ, CEG CHECKED BY: S. BATTELLE, CHG

ELEVATION GROUND LEVEL: 355.90 ELEVATION TOP OF CASING: 358.15

OP OF CASING: 358.15
DATE STARTED: 11/22/99
DATE FINISHED: 11/23/99
TOTAL DEPTH: 69.5 feet

**DRILLING SUMMARY:** WELL CONSTRUCTION LOG: Finish Date Time Start Date Time Total Depth: 70 feet Borehole diameter: 6.5" Drilling: 11/22/99 15:00 11/23/99 8:22 Coring: Driller: Water Development Corporation Dresser T-70 11/23/99 10:26 11/23/99 10:35 Casing Install: Bit(s): Tri-cone 11/23/99 10:35 11/23/99 10:39 Filter Placement: Seal Placement: (Bentonite Chips) Drilling Fluid: Air 11/23/99 10:40 11/23/99 10:42 Seal Placement 2nd: 11/23/99 10:57 11/23/99 11:13 Protective Casing: 9-7/8" # steel. (Grout) **WELL CONSTRUCTION DETAILS:** 2" diameter Sch. 40 PVC Casing: **WELL DEVELOPMENT LOG:** with flush threaded joints. (From +2.25 to 49.5 feet.) Finish Time Date Surge Block 12/6/99 14:00 14:45 2" diameter Sch. 40 PVC Screen: with 0.020" slots and flush Air Lift Pumping threaded joints. Other - Bailer (From 49.5 to 69.5 feet.) 12/6/99 14:45 16:30 Total Gallons Removed: 45 Grout Seal: Portland type I-II neat cement with 5% bentonite. STABILIZATION TEST DATA: (From 2 to 38 feet.) Gallons Temp (°F) Spec. Cond. Seol: Bentonite Medium bentonite chips. (From 38 to 44 feet.) Filter Pack: #3 Monterey Sand. (From 44 to 70 feet.) Comments: Centralizer: Stainless steel. (At 49 and 69 feet.) Concrete **WELL MONITORING DATA:** Reading Date: Time Corr. Depth SWL. By 7:00 11/23/99 49.7' bas WBL. 12/06/99 14:18 47.0' bgs WBL

#### MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-14

PAGE: 1 OF 1

70 —

JOB NO.: 9539
PROJECT: DETECTION MONITORING PROGRAM
LOCATION: GREGORY CANYON LANDFILL
INSPECTOR: W. LOPEZ, CEG
CHECKED BY: S. BATTELLE, CHG

ELEVATION GROUND LEVEL: 332.21 ELEVATION TOP OF CASING: 334.13 DATE STARTED: 11/21/99 DATE FINISHED: 11/22/99 TOTAL DEPTH: 55.5 feet

0 ———			DRILLIN	G SUMMARY:	WELL	CONST				nlah
			pth: 63 f diameter:		n-182		Date	ļ	1	Time
-				•	Drilling: Coring:	<del> </del>	11/21/99	7:33	11/21/9	7 10.13
5 —		Driller: Rig:	Water Dev -Dresser T	velopment Corporation -70	Casing Install		11/22/99	8.23	11/22/0	8.28
		Bit(s): T		, -	Filter Placem		11/22/99	<del> </del>	ļ	<del> </del>
10		Orilling F	fluid: Air		Seal Placeme	nt:	11/22/99		11/22/99	
				D 7/0# 4 1 1	Seal Placeme		11/22/99		3	
		Protecti	ve Casing:	9-7/8" ø steel.	(Grout)		11/22/33	3.00	11/22/3	3.10
20 ——		WELL	CONSTI	RUCTION DETAILS:						
25 —			Casing:	2" diameter Sch. 40 PVC with flush threaded joints. (From +1.92 to 35.5 feet.)	WELL	DEVEL	OPME	NT L		Finish Time
_			Screen:	2" diameter Sch. 40 PVC	Surge Block		1	2/6/99		10:20
30			Screen:	with 0.020" slots and flush	Air Lift Pun	ping				
_				threaded joints. (From 35.5 to 55.5 feet.)	Other - Bail	er	1	2/6/99	10:20	12:35
					Total Gallon	s Remove			.11	
35 ——			Grout Seal:	Portland type I—II neat cement with 5% bentonite.	07101					
				(From 2 to 25.5 feet.)	-	LIZATIO		SIU		(Art)
40		77777	7 Bentonite	Medium bentonite chips.	Gallons pH		ec. Cond.		1 ump	(°F)
			Seal:	(From 25.5 to 30 feet and from 56 to 63 feet.)						
45 —			Filter Pack:	#3 Monterey Sand.						
_				(From 30 to 56 feet.)		I		~~~	.1	
50 —			> Centralizer:	Stainless steel. (At 35 and 55 feet.)	Comments:					
55 —			Concrete							
<del></del>		w		ITORING DATA:	· · · · · · · · · · · · · · · · · · ·					
60 —		Date	Time	Reading	Corr.	Depth		SWL		
<del>-</del>		11/22/99	7:00		<u> </u>	36.5' bg				BL
	(/////////	12/06/99	9:20		······································	36.5' bg	9		WI	HL.
65					***************************************					

#### MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-15

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: DETECTION MONITORING PROGRAM
LOCATION: GREGORY CANYON LANDFILL
INSPECTOR: W. LOPEZ, CEG
CHECKED BY: S. BATTELLE, CHG

ELEVATION GROUND LEVEL: 304.82 ELEVATION TOP OF CASING: 306.80 DATE STARTED: 11/19/99 DATE FINISHED: 11/20/99 TOTAL DEPTH: 45 feet

		DRILLING SUMMARY:	WELL CONSTRU	JCTION LOG:
0		Total Depth: 50 feet	, ,	Start Finish Date Time Date Time
<u> </u>		Borehole diameter: 9-7/8"	Drilling: 11/	/19/99 13:10 11/19/99 17:10
		Driller: Water Development Corporation	Coring:	
5		Rig: Dresser T-70	Casing Install: 11/	/20/99 8:30 11/20/99 8:37
		Bit(s): Tri-cone	Filter Placement: 11/	/20/99 8:40 11/20/99 13:00
10 —		Drilling Fluid: Air	Seal Placement: (Bentonite Chips)	/20/99 13:08 11/20/99 13:12
<del>-</del>		Protective Casing: 9-7/8" ø steel.		/20/99 14:45 11/20/99 15:20
_				
15		WELL CONSTRUCTION DETAILS:		
20		Casing: 2" diameter Sch. 40 PVC with flush threaded joints.	WELL DEVELOR	PMENT LOG:
		(From +1.98 to 25 feet.)		Start Finish Date Time Time
		Screen: 2" diameter Sch. 40 PVC	Surge Block	
25		with 0.020" slots and flush threaded joints.	Air Lift Pumping	
		(From 25 to 45 feet.)	Other -	
	7 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Grout Seal: Portland type I-II neat	Total Gallons Removed:	
30 ——		cement with 5% bentonite.  (From 2 to 15.5 feet.)	OTABILITATION	TECT DATA-
 			STABILIZATION  Gallone pH Spec.	Cond. Temp (°F)
 35		Bentonite Medium bentonite chips. Seal: (From 15.5 to 20 feet.)	Guiona pri Spec.	Cond. (only (**)
		Filter Pack: #3 Monterey Sand.		
40		(From 20 to 45 feet.)		
		Centralizer: Stainless steel.		
		(At 25 and 45 feet.)	Comments:	
45 <del></del> 		Concrete		
*******		I SOMEON I		
50		Slough		
		WELL MONITORING DATA:	Corr	SWL By
 55		Date Time Reading	Corr. Depth 25.0' bgs	SWL By WBL
_		11/20/99 7:00	11.7' bgs	WBL
		11/21/99 8:30		
60		12/08/99 8:50	12.3' bgs	WBL
65				
0.5				

## MONITORING WELL COMPLETION SUMMARY

WELL NO.: GLA-16

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: DETECTION MONITORING PROGRAM
LOCATION: GREGORY CANYON LANDFILL
INSPECTOR: W. LOPEZ, CEG
CHECKED BY: S. BATTELLE, CHG

ELEVATION GROUND LEVEL: 305.28 ELEVATION TOP OF CASING: 307.54 DATE STARTED: 12/20/99 DATE FINISHED: 12/20/99 TOTAL DEPTH: 29.5 feet

		DRILLIN	IG SUMMARY:	WELL	CONSTR				
0	Total De	apth: 33.5	5 feet	,		Date Sta	rt Time	Date Fin	Time
	Borehole	e diometer:	8	Drilling:	1.	2/20/99	10:00	12/20/99	10:15
5 —	Driller:		evelopment Corporation	Coring:		-	-	-	-
		CME-95 Hollow Ster	m Auger	Casing Insta	li: 1	2/20/99	10:15	12/20/99	10:30
	Diritor.	TIONOW Stor	iii Augoi	Filter Places	ment: 1	2/20/99	10:30	12/20/99	10:55
10 —	Drilling f	Fluid: Air		Seal Placem (Bentonite C	Chips)	2/20/99	10:55	12/20/99	11:05
	Protecti	ive Casing:	Hollow Stem Auger	Seal Placem (Grout)	ent 2nd: 1	2/20/99	11:15	12/20/99	11:30
15	WELI	CONST	RUCTION DETAILS:			~~			
20		Casing:	2" diameter Sch. 40 PVC with flush threaded joints. (From +2.26 to 9.5 feet.)	WELL	. DEVELO		NT L		Finish Time
		Screen:	2" diameter Sch. 40 PVC	Surge Block		12,	/23/99	11:40	12:10
25 ——		Sci eali:	with 0.020" slots and flush	Air Lift Pur	mping				
_			threaded joints. (From 9.5 to 29.5 feet.)	Other - Bai	iler	12,	/23/99	12:10	14:00
				Total Gallor	ns Removed	d: 65	. <del></del>		
30		Grout Seal	: Readi-mix concrete. (From 0 to 3 feet.)						
			(		LIZATION		ST D		
	مدمندها	710 nnån-1å -	Medium bentonite chips.	Gallens pH	Spe	c, Cond.		Temp	(°F)
35		Seal:	(From 3 to 7.8 feet.)						
_									
40	[ [ [ ] ]		. #7 Manhaman Cand						
		Eliter Pock	: #3 Monterey Sand. (From 7.8 to 33.5 feet.)					<u> </u>	
					<del></del>				
45	<u>;</u>			Comments	:				
_				:					
50 —									
	w	ELL MOI	NITORING DATA:				<del></del>		
	Date	Time ,	Reading	Corr.	Depth		SWL	, Ву	1
55 <del></del>	12/20/99	11:10			10.6' bgs	"		WE	L
						<del> </del>			
60									
******						ļ	<del></del>		
65									

## MONITORING WELL COMPLETION SUMMARY

WELL NO .:

GLA-A

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: GREGORY CANYON LANDFILL
LOCATION: GREGORY CANYON, PALA, CA
INSPECTOR: W. LOPEZ, CHG
CHECKED BY: W. LOPEZ, CHG

ELEVATION GROUND LEVEL: 377.49 ELEVATION TOP OF CASING: 380.35 DATE STARTED: 7/20/04 DATE FINISHED: 7/21/04 TOTAL DEPTH: 104.4 feet

								····
0	$\bot \downarrow \Box \downarrow \Box$	DRILLING SUMMARY:	WE	LL CO	NSTRUCT	ION I	LOG:	
		Total Depth: 105 feet			Dote S	tort , Time	, Date	nish , Time
		Borehole diameter: 8-1/2" Driller: WDC EXPLORATION AND WELLS	Drilling:		6/08/0	4 16:50	6/09/04	9:55
5		Rig: SPEED STAR 30K	Coring:		-	_	-	-
<del></del>		Bit(s): TRI-CONE / DOWNHOLE HAMMER	Ream:		-	-	_	_
30 ——		Drilling Fluid: AIR	Geophys.	Logging	: 6/11/0-	7:30	6/11/04	9:15
_		Protective Casing: 9-5/8" diameter steel	Casing Ins		<del></del>	<del></del>	6/24/04	
		conductor from 0 to 20'	Filter Pla				6/24/04	+
35 ——		WELL CONSTRUCTION DETAILS:	(Bentonite Seal Place	e)	<del></del>	<del></del>	6/24/04	
		Casing: 4" diameter, flush threaded,	(Grout)		6/24/04	12:30	6/24/04	13:10
60		Sch. 40 PVC. (From +2.86 to 74.4 feet.)				<u> </u>		
		(110H +2.00 W 74.4 100C.)	WEL	L DE	VELOPME	NT L		
65		Screen: 4" diameter, flush threaded,				Dat●	Start Time	Finish Time
		Sch. 40 PVC with 0.020" slots. (From 74.4 to 104.4 feet.)	Surge Block			7/06/04		8:40
			Bailing		· · · · · · · · · · · · · · · · · · ·	7/06/04		9:00
70		Filter Pack: #3 Monterey type sand.	Pumping Total Gal	lons Re	moved: I65	7/06/04	10:25	11:15
		(From 71.5 to 105 feet.)						
75 —			1		TION TES		ATA: Temp	(°F)
		Bentonite Medium chipped bentonite. Seal: (From 63.5 to 71.5 feet.)						
_								
80		Grout Seal: Neat cement slurry with 5% bentonite.						
		(From 3 to 63.5 feet.)						
85		Centralizer: Stainless steel.						
			Comment	s:				
			Well was	develop	oed by surg	ging, t	ailing	and
90		Cement: From 0 to 3 feet.	approximo	water t Itely le	until visibly` ss then 5	ciear, NTU.		
95		WELL MONITORING DATA:  Date   Time   Description		Ca	Daniel de la	6W/ /-		_
<del></del>		6/11/04 7:15 Prior to well construction		Corr.	75.22	302.2		BL
		7/06/04 8:25 Prior to well development		_	75.30	302.1		BL.
00					. 5.05	VVL. (	711	
			-					
05								$\dashv$
	1				<u> </u>			

### MONITORING WELL COMPLETION SUMMARY

WELL NO.:

GLA-B

PAGE: 1 OF 1

JOB NO.: 9539

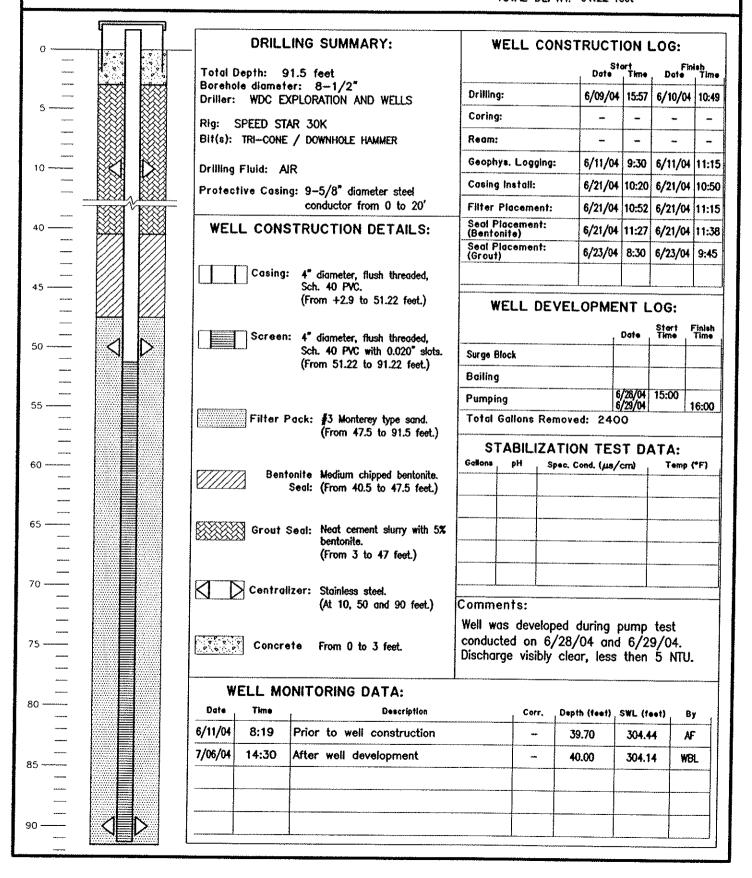
PROJECT: GREGORY CANYON LANDFILL LOCATION: GREGORY CANYON, PALA, CA

INSPECTOR: J. HOWER, CEG CHECKED BY: W. LOPEZ, CHG

ELEVATION GROUND LEVEL: 344,14 ELEVATION TOP OF CASING:

347.04

DATE STARTED: 6/09/04 DATE FINISHED: 6/23/04 TOTAL DEPTH: 91.22 feet



#### MONITORING WELL COMPLETION SUMMARY

WELL NO.:

GLA-C

PAGE: 1 OF 1

JOB NO.: 9539

PROJECT: GREGORY CANYON LANDFILL LOCATION: GREGORY CANYON, PALA, CA

INSPECTOR: W. LOPEZ, CHG CHECKED BY: W. LOPEZ, CHG

ELEVATION GROUND LEVEL: 340.76 ELEVATION TOP OF CASING: 343.45

DATE STARTED: 6/03/04 DATE FINISHED: 6/03/04 TOTAL DEPTH: 81 feet

WELL CONSTRUCTION LOG: **DRILLING SUMMARY:** Start Date Time Finish Date Time Total Depth: 81 feet Borehole diameter: 8-1/2" Drilling: 6/10/04 16:35 6/11/04 9:19 Driller: WDC EXPLORATION AND WELLS Coring: Rig: SPEED STAR 30K Bit(s): TRI-CONE / DOWNHOLE HAMMER Ream: _ Geophys. Logging: 6/18/04 7:30 6/18/04 9:00 Drilling Fluid: AIR Casing Install: 6/21/04 13:05 6/21/04 13:35 Protective Casing: 9-5/8" diameter steel conductor from 0 to 20' Filter Placement: 6/21/04 13:35 6/21/04 14:05 Seal Placement: (Bentonite) **WELL CONSTRUCTION DETAILS:** 6/21/04 14:08 6/21/04 14:23 Seal Placement: (Grout) 6/23/04 10:15 6/23/04 11:30 4" diameter, flush threaded, Casing: Sch. 40 PVC. (From +2.69 to 41 feet.) **WELL DEVELOPMENT LOG:** Finish Time Screen: 4" diameter, flush threaded, Date Sch. 40 PVC with 0.020" slots. Surge Block 7/06/04 14:15 14:28 (From 41 to 81 feet.) Bailing 7/06/04 14:28 14:38 Pumping 7/06/04 14:50 PM Total Gallons Removed: 170 Filter Pack: #3 Monterey type sand. (From 37 to 81 feet.) STABILIZATION TEST DATA: Gallons Temp (°F) Spec. Cond. (µs/cm) Bentonite Medium chipped bentonite. Seal: (From 32 to 37 feet.) Grout Seal: Neat cement slurry with 5% bentonite. (From 3 to 32 feet.) Centralizer: Stainless steet. (At 10, 40 and 80 feet.) Comments: Well was developed by surging, bailing and pumping water until visibly clear, Concrete From 0 to 3 feet. approximately less then 5 NTU. **WELL MONITORING DATA:** Time Date Description Depth (feet) SWL (feet) Corr. By 6/12/04 15:55 Prior to well construction 40.14 303.31 WBL 7/06/04 14:10 Prior to well development 37.12 306.33 WBL

# MONITORING WELL COMPLETION SUMMARY

WELL NO .:

GLA-D

PAGE: 1 OF 1

JOB NO.: 9539
PROJECT: GREGORY CANYON LANDFILL
LOCATION: GREGORY CANYON, PALA, CA
INSPECTOR: W. LOPEZ, CHG
CHECKED BY: W. LOPEZ, CHG

ELEVATION GROUND LEVEL: 364.77 ELEVATION TOP OF CASING: 367.65 DATE STARTED: 6/07/04 DATE FINISHED: 6/25/04 TOTAL DEPTH: 145.1 feet

							7
0	929 293	DRILLING SUMMARY:	WELL CONST	RUCTI	ON L	_OG:	ĺ
		Total Depth: 146.2 feet		Sto Date	rt Time	Date Fi	nish Time
		Borehole diameter: 8-1/2" Driller: WDC EXPLORATION AND WELLS	Drilling:	6/07/04	14:25	6/08/04	8:55
5 —		Rig: SPEED STAR 30K	Coring:		-	-	-
		Bit(s): TRI-CONE / DOWNHOLE HAMMER	Ream:		-	-	-
40		Drilling Fluid: AIR	Geophys. Logging:	6/11/04	13:15	6/11/04	15:15
_		Protective Casing: 9-5/8" diameter steel	Casing Install:	6/25/04	7:30	6/25/04	7:45
_		conductor from 0 to 20'	Filter Placement:	6/25/04	8:10	6/25/04	8:45
45 —— —		WELL CONSTRUCTION DETAILS:	Seal Placement: (Bentonite)	6/25/04			
			Seal Placement: (Grout)	6/25/04	10:30	6/25/04	11:10
80		Casing: 4" diameter, flush threaded, Sch. 40 PVC.					
		(From +2.88 to 95.1 feet.)	WELL DEVEL	OPME	NT L	OG:	
		Sorson 4º Franks Sub-Hand		!	Date .	Start Time	Finish Time
85		Screen: 4" diameter, flush threaded, Sch. 40 PVC with 0.020" slots.	Surge Block	~ <b></b>	/06/04		13:25
		(From 95.1 to 145.1 feet.)	Bailing				13:50
90			Pumping				
		Filter Pack: #3 Monterey type sand.	Total Gallons Remove	d: 90		1	
_		(From 90.5 to 146.2 feet.)	STABILIZATIO	N TES	T DA	ATA:	
95		Bentonite Medium chipped bentonite.		ond. (µ8/c		Temp	(°F)
*****		Seal: (From 82 to 90.5 feet.)					
100		Grout Seal: Neat cement slurry with 5% bentonite.					
		(From 3 to 82 feet.)					
125		Centralizer: Stainless steel.		***************************************	<u>_</u>		
		(At 45, 95 and 145 feet.)	Comments:			*	
			Well was developed I	by surgi	ing a	nd bail	ing
130		Cement: From 0 to 3 feet.	until dry.				
135		WELL MONITORING DATA:					
		Date Time Description		h (feet)			Ву
		6/21/04 11:30 Prior to well construction		9.50	305.2		BL.
140		7/06/04 12:15 Prior to well development	- 60	0.27	304.5	U W	BL
					***************************************		
145 —							
					••••		

#### MONITORING WELL COMPLETION SUMMARY

WELL NO.:

GLA-G

PAGE: 1 OF 1

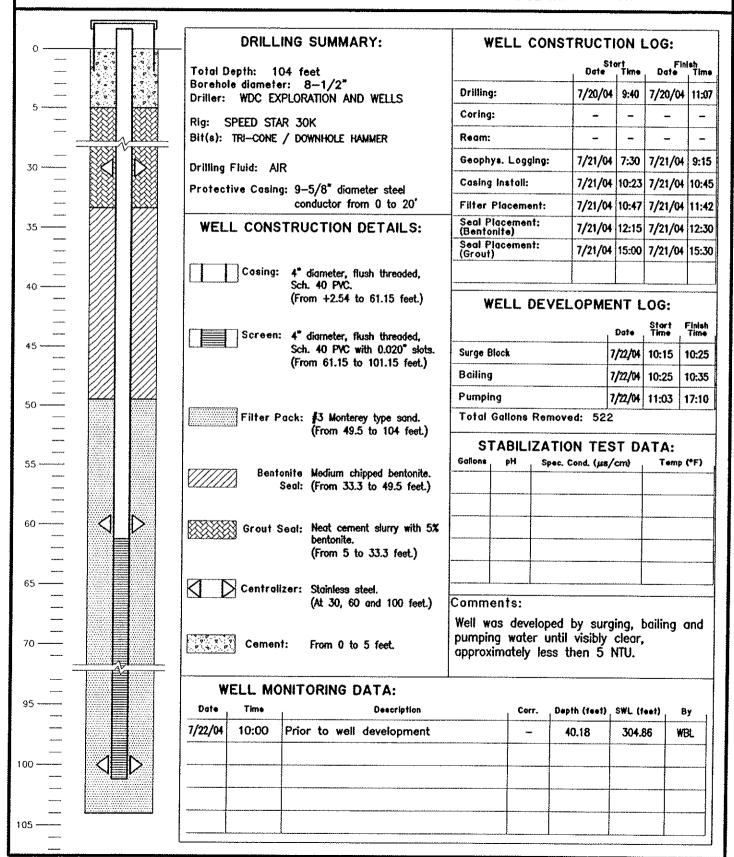
JOB NO.: 9539

PROJECT: GREGORY CANYON LANDFILL LOCATION: GREGORY CANYON, PALA, CA

INSPECTOR: W. LOPEZ, CHG CHECKED BY: W. LOPEZ, CHG ELEVATION GROUND LEVEL: ELEVATION TOP OF CASING:

345.04 347.58

DATE STARTED: 7/20/04 DATE FINISHED: 7/21/04 TOTAL DEPTH: 101.15 feet



### MONITORING WELL COMPLETION SUMMARY

WELL NO .: LUCIO-2R

PAGE: 1 OF 1

JOB NO.: 9539

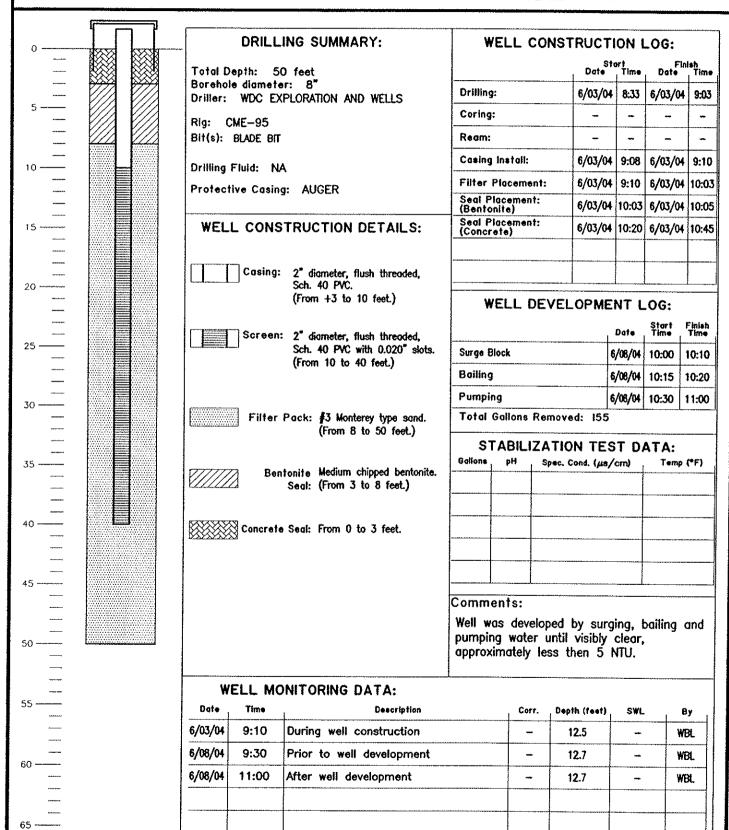
PROJECT: GREGORY CANYON LANDFILL LOCATION: GREGORY CANYON, PALA, CA

INSPECTOR: W. LOPEZ, CHG CHECKED BY: W. LOPEZ, CHG

ELEVATION GROUND LEVEL: ND ELEVATION TOP OF CASING: ND

DATE STARTED: 6/03/04 DATE FINISHED: 6/03/04

TOTAL DEPTH: 40 feet



# MONITORING WELL COMPLETION SUMMARY

WELL NO .: SLRMWD-34R

PAGE: 1 OF 1

JOB NO.: 9539

PROJECT: GREGORY CANYON LANDFILL LOCATION: GREGORY CANYON, PALA, CA

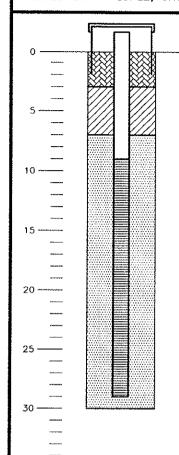
CHECKED BY: W. LOPEZ, CHG

INSPECTOR: W. LOPEZ, CHG

ELEVATION GROUND LEVEL: ND ELEVATION TOP OF CASING: ND

DATE STARTED: 6/03/04 DATE FINISHED: 6/03/04

TOTAL DEPTH: 29 feet



# **DRILLING SUMMARY:**

Total Depth: 30 feet Borehole diameter: 8"

Driller: WDC EXPLORATION AND WELLS

Rig: CME-95 Bit(s): BLADE BIT

Drilling Fluid: NA

Protective Casing: AUGER

#### **WELL CONSTRUCTION DETAILS:**

Casing: 2" diameter, flush threaded,

Sch. 40 PVC. (From +3 to 9 feet.)

Screen: 2" diameter, flush threaded,

Sch. 40 PVC with 0.020" slots.

(From 9 to 29 feet.)

Filter Pack: #3 Monterey type sand.

(From 7 to 30 feet.)

Bentonite Medium chipped bentonite. Seal: (From 3 to 7 feet.)

Cement Seal: From 0 to 3 feet.

#### **WELL CONSTRUCTION LOG:**

	Date Sto	rt Time	Pin Date	ish Time
Drilling:	6/03/04	12:20	6/03/04	12:40
Coring:		-		-
Ream:	_	-		-
Casing Install:	6/03/04	12:42	6/03/04	12:45
Filter Placement:	6/03/04	12:45	6/03/04	13:08
Seal Placement: (Bentonite)	6/03/04	13:08	6/03/04	13:10
Seal Placement: (Cement)	6/03/04	13:15	6/03/04	13:45

#### WELL DEVELOPMENT LOG:

	Date	Start Time	Finish Time
Surge Block	6/08/04	11:45	11:55
Bailing	6/08/04	12:00	12:05
Pumping	6/08/04	12:15	12:45

Total Gallons Removed: 155

#### STABILIZATION TEST DATA:

Gallons	pН	Spec. Cond. (µs/cm)	Temp (°F)
			<del></del>
İ			

#### Comments:

Well was developed by surging, bailing and pumping water until visibly clear, approximately less then 5 NTU.

#### **WELL MONITORING DATA:**

Date	Time	Description	Corr.	Depth (feet)	SWL	, Ву
6/03/04	14:00	After well construction	_	12.6	**	WBL.
6/08/04	11:25	Prior to well development	_	13.4	***	WBL
6/08/04	13:00	After well development		13.4	-	WBL

BORING LOG

BORING NO.: GLA-1

PAGE: 1 OF

5

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOCGED BY: T. REEDER

DATE STARTED: 11/19/96
DATE FINISHED: 11/20/96
ELEVATION: ND
NORTHING: ND
EASTING: ND

GW DEPTH: 99.5 feet TOTAL DEPTH: 300 feet

TIME	TIME STOP	rate, Ft/Min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	- -	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGI FORMATION	DESCRIPTION	COMMENTS
1/19 10:12	-			:		5		<b></b>		웃음	RESIDUAL SOIL mixed with decomposed rock. Yellowish brown (10R5/4). Drills as a coarse SAND. Moderately to highly weathered. Dominant lithic fragments are decomposed LEUCOGRANODIORITE with iron oxide staining.	Dry.
elektrone e						15			1/1/1/XXXX		Decomposed GRANODIORITE with quartz. Light brownish gray (2.5Y6/2) to brown (10YR5/3). Oxidized with altered biotite and some pink (7.5YR7/4) potassium— feldspar. Cut by quartz feldspar dikes. BONSALL TONALITE. Gray (2.5Y5/1). Drills as a fine to medium sand with some coarse	Damp.
						20-			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		fragments. Highly to moderately weathered; some iron oxide staining; altered micas(20') — slightly less weathered (moderately weathered) and more felsic.	
						30 35	-12/	 16/96	ルムールムールムールム: V<フ V<フ V<フ V<フ V A A A A A A A A A A A A A A A A A A A		(30') — TONALITE drills as a fine sand with minor coarse sand — fine gravel size fragments. Color changes to gray (2.5Y6/1).	
2:14	10:36					40		<b>.</b>	V		ODANODIODITE /TOMALITE LIALIA da accesada	
		1.17				<b>4</b> 5		-	7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2		GRANODIORITE/TONALITE lithic fragments. Slightly weathered and oxidized. Gray (N6); many fragments display foliation; rare pinkish white (5YR8/2) potassium feldspar, probably as dikes.  GRANODIORITE. Increase in felsic lithic fragments. Gray (10YR6/4) to light gray	
	12:31					55					(10YR7/1). More quartz and feldspar dikes; foliation is less common. Iron oxide staining on quartz and feldspar.  GRANODIORITE/TONALITE. Less felsic fragments. Color change to gray (5Y5/1 to N5); with very minor pinkish white to	
12:35						60-			7 7 7 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1		reddish yellow (5YR8/2 to 7.5YR7/6) potassium feldspar; very minor iron oxide staining. CONTINUED ON NEXT PAGE conditions encountered and applies only at the	

BORING LOG

BORING NO.: GLA-1

PAGE: 2 OF 5

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER

DATE STARTED: 11/19/96 DATE FINISHED: 11/20/96 ELEVATION: ND

NORTHING: ND EASTING: ND GW DEPTH: 99.5 feet TOTAL DEPTH: 300 feet

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE,	ON FLAMPS	DEPTH IN	ELEVATION IN FEET	MATERIAL Symbol	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
12:35						65	-	7		GRANODIORITE/TONALITE. Less felsic fragments. Color change to gray (5Y5/1 to N5); with very minor pinkish white to reddish yellow (5YR8/2 to 7.5YR7/6) potassium feldspar; very minor iron oxide staining.  TONALITE. Gray (N6). Slightly weathered. Mineralogy is hornblende, pyroxene, feldspar (plagioclase), and minor quartz(70') — slightly darker; less potassium	
						75-		1		feldspar.	
12:59	12:57	0.91				80	-				(80') – dry.
		0.91				90	_	レンド レンド レンド レンド レンド レンド マスト			
13:24	13:21					100	<u> </u>	X		(95') — mixed TONALITE and GRANODIORITE. Darker gray (N5) and light gray (N7) (TONALITE inclusions in GRANODIORITE?).	
		1.05				105		1 V A I V A I V A			
			:			110-	-	1		(110') - less segregated GRANODIORITE/TONALITE. (115') - slightly more felsic lithic fragments. GRANODIORITE/TONALITE with	
13:46	13:43		:			120-		3 7 V 7 V 7 7 V 7 V 7 V 7 V 7 V 7 V 7 V		slightly oxidized quartz/feldspar dikes(120') — More uniform appearance. Felsic fragments absent — no dikes.  CONTINUED ON NEXT PAGE	

LOG BORING

BORING NO.: GLA-1

PAGE: 3

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AR
CONTRACTOR: LAYNE — ENVIRONMENTAL

DATE STARTED: 11/19/96
DATE FINISHED: 11/20/98
ELEVATION: ND
NORTHING: ND
EASTING: ND

GW DEPTH: 99.5 feet TOTAL DEPTH: 300 feet

LOGGED BY: T. REEDER

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	NI HLAGGO	ree:	ELEVATION IN PEET	MATERIAL Symbol	USCS/GEOLOGI FORMATION	DESCRIPTION	COMMENTS
13:46						120-		_	2 4 4 5		(120') — More uniform appearance. Felsic fragments absent — no dikes.	
						125		_	1 V V V V V V V V V V V V V V V V V V V		(125') - same as above. GRANODIORITE/ TONALITE. Gray (N5). Slight foliation on	Dry.
		0.91		:		130-			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		some fragments.  GRANODIORITE/TONALITE. Gray (N5).	
						135-		_	7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V			
14:12	14:08					140		_	7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V			
						145			* V A Z Y A Z Z Y A Z Z			
		:				150-		_	ν ν ν ν ν ν ν ν ν ν ν ν ν ν ν ν ν ν ν			
						155-		_	V			
14:37	14:33	0.95				180-			V	1	(160') — slightly more felsic fragments,	
						165-			1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		possibly dikes in the TONALITE(165') — less felsic fragments; more	
						170-			V < 7 V < 7 V < 7 V < 7	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	mafics.	
						175			V	, and a second		
45.05	14:56	1.05				180			V			
15:25									ν < Λ 3 7 4		CONTINUED ON NEXT PAGE conditions encountered and applies only at the	

# BORING LOG

BORING NO .: GLA-1

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JOB NO.: 9539

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER

DATE STARTED: 11/19/96
DATE FINISHED: 11/20/96
ELEVATION: ND
NORTHING: ND
EASTING: ND

GW DEPTH: 99.5 feet TOTAL DEPTH: 300 feet

			: T. RE			<del>, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>				63	EASTING: ND	
TIME START	TIME STOP	RATE, FT/MIN	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	- 111	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
15:25						180			\ \ \ \ \ \ \			
									7 4 V V V			
	:					185			1			
									ν × × ×			
			}						V < V			
ĺ						190		_	1 V X		(190') - some very minor iron oxide	
			<u>[</u>						57 Z		stàining along fractured surfaces.	
						195			2 / / / / / / / / / / / / / / / / / / /			
						130			V < ^ >		GRANODIORITE/TONALITE. Gray (N5). Slightly weathered to fresh.	
									ν × ×			
15:50	15:47	0.91				200-	1	_	1 × ×	] 		
13.30									7 7 V			
						205			2 2 7			
						205-			7 7		(205') — increase in felsic minerals (quartz and feldspar); probably	
									1 < A		GRANODIORITE dikes in the TONALITE. White (N8) felsic fragments represent	
						210-		$ \nabla$	V < ^	}	approximately 35-40% of material.	  (210') — dampness on
								1	1 2 X	1		outside of drill stem.
	•							1	77 7			
						215-		-	ζ < Λ 7 , 1	1	(215') — felsic fragments increase to 50%.	
									ν < Λ > 7	4	30%.	
	16:09	1.05				220-		<u> </u>	124	-	LEUCOGRANODIORITE. White (N8 to 10YR8/1)	
16:12											with minor inclusions of TONALITE. Slightly	
ļ								-	1		weathered; minor iron oxide staining; with pinkish white (5YR8/2) potassium feldspar.	
						225-		<del> </del>	< A	4	GRANODIORITE/TONALITE with felsic dikes. Gray (N5) TONALITE with approximately 30%	(223') - damp.
								1	5	4	LEUCOGRANODIORITE dikes.	
						230-			V < A			<u> </u>
						200		1	7 V V < A		(230') - 5% felsic fragments.	
								-	77	4		
	†					235-		+	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4	(235') — felsic fragments increase to	
								1	7	4	40%. LÉUCOGRANODIORITE dikes in TONALITE. Light gray (N6). Slightly oxidized.	
	16:30	1.11			***************************************			-	V < ^	3		
11/20		1.11				240-		1	Γ ₇   ν < Λ		(240') — felsic fragments represent approximately 50% of the material (QUARTZ	
7:35								-	7		GRANODIORITE?).  CONTINUED ON NEXT PAGE	
772	e data	preser	nted on	this lo	g is a	gmis	ificat	ion (	of ac	tuai	conditions encountered and applies only at the at other locations and may change with the	e location of this boring

# BORING LOG

BORING NO.: GLA-1

PAGE: 5 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL-WALL REVERSE, AIR

DATE STARTED: 11/19/96
DATE FINISHED: 11/20/96
ELEVATION: ND
NORTHING: ND
EASTING: ND

GW DEPTH: 99.5 feet TOTAL DEPTH: 300 feet

ONTRACTOR:	LAYNE - ENVIRONMENTAL
LOGGED BY:	T. REEDER

TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	Į	1111	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGI FORMATION	DESCRIPTION	COMMENTS
					240		-	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	]	(240') — felsic fragments represent approximately 50% of the material (QUARTZ GRANODIORITE?).	
					245		_	2 × ×		(245') — felsic fragments less than 5% (GRANODIORITE with 30%+ quartz and feldspar). Light gray (N6); with pink (5Y7/4) potassium feldspar; some epidote	Wet.
7:47	0.83				250			7 V X Z V		and chlorite alteration. (250') — no pink potassium feldspar. Increase in GRANODIORITE/TONALITE fragments foliation.	
					255-			< ^ / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / / V < / /	1	(255') — darker. TONALITE with little felsic fragments. Gray (N5). Very minor quartz/ feldspar dikes.	Dry.
7:59	0.56				260-			V < A. 1 ∨ A. 1 ∨ A. 1 ∨ A.		TONALITE. Dark gray (N5). Hard; minor foliation of mafic minerals.	
					265-		-	V			(265') — enough water flowing into the hole to wet sample when adding
8:16	1.25				270-			V		(270') — Migmatitic texture on some fragments. GRANODIORITE/TONALITE with minor epidote and chlorite alteration.	rod.
					275-			1. V 4	X 4	Slightly more felsic than above.	
8:29	0.83			;	280		- - -	1 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A	7.7		
					285-		-	V		surface on one lithic fragment. Very minor iron oxide staining on some fragments.  Minor chlorite and epidote alteration.	Damp.
8:53	0.91				290-			V	7 4 7	(5Y8/2) potassium feldspar. (295') — no visible potassium feldspar (5YR8/2).	
					295-			V < 7 V <		Total depth of borehole 300 feet.     Conductor casing set to 20 feet.     Open hole interval (exposed bedrock)	
9:07					300-			v \	٠] <i>[</i> [	surface. 4. Groundwater first encountered between 200 and 220 feet. 5. Depth to water on 12/16/96 measured at 37.10 feet.	
	7:47 7:59 8:16	7:47 0.83 7:59 0.56 8:16 1.25	7:47 0.83 7:59 0.56 8:16 1.25 8:29 0.83	7:47 0.83	7:47 0.83	7:47 0.83	7:47 0.83 250 255 265 265 265 275 275 275 275 275 275 275 275 275 27	7:47 0.83 250 255 255 270 275 275 275 275 285 285 285 285 285 285 285 285 285 28	7:47 0.83 250 245 7.47 0.83 250 255 7.59 0.56 265 265 270 271 271 271 271 271 271 271 271 271 271	7:47 0.83 250 245 7.47  7:59 0.56 265 270 275 275 275 275 275 275 275 275 275 275	### 1.25  ### 240  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ### 245  ##

#### BORING LOG

BORING NO.: GLA-2

PAGE: 1

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOCGED BY: T. REEDER

DATE STARTED: 11/18/96
DATE FINISHED: 11/19/96
ELEVATION: 375 feet
NORTHING: ND

GW DEPTH: 70 feet TOTAL DEPTH: 250 feet

EASTING: ND

TIME	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	1 1 1	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGI FORMATION	DESCRIPTION	COMMENTS
1/18 1:20						0		<b>-</b>	SON SON SON SON	SM	RESIDUAL SOIL. Loose, non-cohesive, with coarse SAND to fine GRAVEL-sized rock fragments. Yellowish-brown (10YR5/4).	Dry.
						5			V		BONSALL TONALITE. Strongly weathered (probably "C" horizon). Brown (10YR5/3). Drills as a fine silty sand.	Damp.
						10			V		(10') — becomes coarser with fine sand to medium gravel—sized fragments; coarser fragments are dominantly composed of quartz and feldspar (probably derived from	
	11:50	0.67				15-		<del></del>	V		a LEUCOGRANODIORITÉ dike).	
11:42	11,50					20		<del>-</del>	V	**************************************	(20') — slightly coarser.	Drier.
		•				25					GRANODIORITE. Gray (2.5Y5/1) to grayish brown (2.5Y5/2). Drills as a loose fine sand with minor coarse sand—size fragments of quartz and feldspar.	Dry.
12:26	12:05	0.87				30 <del></del> 35		_			LEUCOGRANODIORITE dike (?). Color changes to light gray (2.5Y7/1) to gray (2.5Y6/1). Drills as a very fine sand; minor coarse sand—size fragments; rare gravel—size fragments. Increase in felsic minerals (quartz and feldspar); decrease in mafics(35'-40') — sample consists only of	Dry. Drilling becomes more difficult from this depth on.
3:25	12:48					40-		<b></b>			coarse fragments. Pale red (2.5YR7/2)(40') — LEUCOGRANODIORITE dike (?). Gray (2.5Y7/1). Very felsic.	Dry.
						45		_			(45') — GRANODIORITE. Slightly darker, but still gray (2.5Y7/1).	
						50-					(50') - darker gray (2.5Y6/1. Increase in mafics (biotite).	Dry.
			And the second property of the second propert			55			1575 T		(55') — slightly darker gray (2.5Y6/1 to 2.5Y5/1). Drills as a very fine sand, with minor coarse sand and medium gravel	
13:40	13:37	1.67				60			1/2/2/2		fragments(60') — iron oxide staining on fragments (probably weathered fracture). Gray (7.5YR5/1).  CONTINUED ON NEXT PAGE	

#### LOG **BORING**

BORING NO .: GLA-2

PAGE: 2 OF

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER

DATE STARTED: 11/18/96
DATE FINISHED: 11/19/96
ELEVATION: 375 feet
NORTHING: ND

GW DEPTH: 70 feet TOTAL DEPTH: 250 feet

EASTING: ND

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	7 2 2	ELEVATION IN FEET	MATERIAL SYMBOL USCS/GEGLOGI FORMATION	DESCRIPTION	COMMENTS
3:40						60		-	いたい	(60') — iron oxide staining on fragments (probably weathered fracture). Gray (7.5YR5/1).	
						65-	12/	16/96		GRANODIORITE. Gray (7.5YR5/1). Moderately weathered with iron oxide staining, probably along fractures. Some GRANODIORITE fragments display foliation.	
						70-		<u>*</u>		(70') — less oxidation. GRANODIORITE/ TONALITE.	
						75-		_			
4:02	13:58	1.11				80				(80') — slightly weathered. Very little iron oxide staining. Color change to gray (N6 to N5) with some bluish gray (585/1).	
						85				(85') — less weathered. No iron oxide staining.	
						90-			5/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5/5/		
						95-		1		(95') — slightly less mafic. Pronounced foliation on many fragments.	
4:24	14:20	1.11				100-		† 			
						105		+		And the second s	
						110-		<u> </u>	1/2/2/2		
						115-					
14:44	14:41	1.18				120-				GRANODIORITE. Gray (N5). Slightly weathered.	
	}							<u> </u>	1 -	CONTINUED ON NEXT PAGE conditions encountered and applies only at the	

BORING LOG

BORING NO.: GLA-2

PAGE: 3 OF

JOB NO.:

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL-WALL REVERSE, AIR
CONTRACTOR: LAYNE - ENVIRONMENTAL

DATE STARTED: 11/18/96
DATE FINISHED: 11/19/96
ELEVATION: 375 feet
MORTHING: ND

ND

ND

GW DEPTH: 70 feet TOTAL DEPTH: 250 feet

CONTRACTOR:	DATUE - ENVIRONMENTAL
LOGGED BY:	T. REEDER

HAMING:	LATRE - ENVIRONMENTAL	NOKIHING:	ı
GED BY:	T. REEDER	EASTING:	١

TIME START	TIME	RATE, FT/MIN	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	FEET	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
14:44						120-		-	S/C		GRANODIORITE. Gray (N5). Slightly weathered.	
						125-		_				
						130			いいと		GRANODIORITE with minor quartz feldspar	
											dikes. Gray (N5). Slightly weathered.	
						135-		<u></u>			(135') — lighter color; gray (N6) to light gray (N7). Less mafics; more quartz and feldspar.	
15:02						140		_				(140') — damp.
						145		_				
						150		V				(450)
												(150') — moist.
						155		<b></b>				
15:36	15:25	0.87				160		_				(160') — possibly moist; will let hole sit 15
						165		_				minutes to see if water seeps into the hole(165') — wet.
						170						
						170			となる			(170') — drilling dry again; probably very low seepage into hole.
						175		-				
	15:59	0.87				180-		_				(180') — moist; will let hole sit 15 minutes before putting in next

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

# BORING LOG

BORING NO.: GLA-2

PAGE: 4 OF

JOB NO.: 9539

STE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOCGED BY: T. REEDER

DATE STARTED: 11/18/96
DATE FINISHED: 11/19/96
ELEVATION: 375 feet
NORTHING: ND

EASTING: ND

CW DEPTH: 70 feet TOTAL DEPTH: 250 feet

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	1111	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLO FORMATION	DESCRIPTION	COMMENTS
16:13						180		1	とうとうとうと		same as above.	(180') — moist; will let hole sit 15 minutes before putting in next stem. Refuel. (181') — wet. (185') — damp.
						190-			1/1/24 124		TONALITE. Darker gray (N5 to N4), with white (N8) fragments mixed in composed of quartz and feldspar (probably derived from quartz/feldspar dikes in TONALITE).	
11/19 6:45 6:54						195-			V		TONALITE. Gray (N5) to dark gray (N4), with white (N8) fragments of quartz/feldspar mixed in (<10%) (probably derived from quartz/feldspar dikes in TONALITE).	
						205-		_	V 3 1 V 3 1 V V 3 7 V 5 7 V			
						210			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		(210') — pink (5YR8/3) potassium feldspar fragments present in mix. Increase in felsic fragments up to 15—20% of material (TONALITE with feldspathic dikes). Some chlorite alteration of mafics.	
7:24	7:18	0.83				215-			V		(215') — decrease in felsic fragments to approximately 5%. No obvious potassium—feldspor fragments.	(220') still drilling
			on the second se			225-			V			damp(223') — very minor water in hole when adding rod.
						230			V A V A A		(230') — same as above.	Drilling drier to just slightly damp.
	7:50	0.77				235-		- -	V		TOURITE (NODITE W-C- t	(235') — drilling wet again; driller thinks there is water pressure; material is clogging up cyclone.
8:04						240			1 V V V		TONALITE/DIORITE, Mafic fragments are dark gray to very dark gray (N4 to N3) when wet, Less than 3% felsic fragments.  CONTINUED ON NEXT PAGE conditions encountered and applies only at the	

# BORING LOG

BORING NO.: GLA-2

PAGE: 5 OF

JOB NO.: SITE LOCATION:

GREGORY CANYON DRILLING METHOD: DUAL-WALL REVERSE, AIR DATE STARTED: 11/18/96 DATE FINISHED: 11/19/96 ELEVATION: 375 feet NORTHING: ND EASTING:

ND

CW DEPTH: 70 feet TOTAL DEPTH: 250 feet

CONTRACTOR: LAYNE - ENVIRONMENTAL LOGGED BY: T. REEDER

SAMPLE SZE, ELEVATION
IN FEET
MATERIAL
SYMBOL
SSS/GEOLOGIC
FORMATION TIME RATE, STOP FT/MIN STOP 욧 INCHES SAMPLE DEPTH FEET TIME DESCRIPTION COMMENTS START 240 TONALITE/DIORITE. Mafic fragments are dark 8:04 gray to very dark gray (N4 to N3) when wet. Less than 3% felsic fragments. 245~ ...(250') - some epidote alteration of 8:19 0.67 plagioclase; some chlorite alteration of 250~ matics. NOTES: 1. Total depth of borehole 250 feet. 255-2. Conductor casing set to 10 feet. 3. Open hole interval (exposed bedrock) between 10 and 250 feet below ground surface. 4. Groundwater first encountered at 150 260feet. 5. Depth to water on 12/16/96 measured at 69.73 feet. 265 270-275 280-285-290 295 300

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

#### BORING LOG

BORING NO.: GLA-3

PAGE: 1 OF

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOCGED BY: T. REEDER

DATE STARTED: 11/25/96
DATE FINISHED: 11/26/96
ELEVATION: 330 feet
NORTHING: ND

EASTING: ND

GW DEPTH: 21 feet TOTAL DEPTH: 150 feet

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE,	INCHES	SAMPLE NO.	DEPTH IN	FEE	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
11/25 12:15							5-			15/45/25/25/45/45	SM SP	TOPSOIL/COLLUVIUM: SILTY SAND with GRAVEL; sub—angular clasts of TONALITE and LEUCOGRANODIORITE; loose. Dark grayish brown (10YR4/3). ALLUVIUM:	Moist(5') – damp.
1							10			/	SW	SAND, medium— to coarse—grained, minor fines, with fine— to coarse—grained angular gravel—size fragments of mostly LEUCOGRANODIORITE with some TONALITE. Brown (10YR5/3).	(5 ) — damp.
i.					territories.	. 1	15		_			SAND with minor fine— to coarse—grained GRAVEL. Light yellowish brown (2.5Y6/4) to very pale brown (2.5Y7/3).	(10') damp.
							20-		Ŧ		SW		
							25	12/	16/96				
							30-					DECOMPOSED LEUCOGRANODIORITE (GRUSS). Light olive brown (2.5Y5/6), highly weathered; Fe—oxide staining. Drills as a fine— to coarse—grained sand/silty sand;	(30°) – damp.
							35- 40-					soft, loose.  DECOMPOSED LEUCOGRANODIORITE. Olive (5Y5/3) with Fe—oxide staining. Highly weathered and decomposed.  DECOMPOSED LEUCOGRANODIORITE. Light	(40') damp.
							45-					olive brown (2.5Y5/4). Drills as fine— to coarse—grained sand with minor gravel. Highly weathered and decomposed(45') — color change to olive brown	(40) dunip.
		1100000					50					DECOMPOSED LEUCOGRANODIORITE. Pale brown (10YR6/3) to yellowish brown (10YR5/4). Drills as loose, soft, medium—	(50') — domp.
							55-		-			to coarse—grained sand. Potassium feldspar is reddish yellow (7.5YR6/6—6/8) with Fe— oxide staining. (60') — cuttings change in color to pale olive (5Y6/3); larger lithic fragments are	
15:33	12:45	2					60-			5/5//		gray (10YR6/1) to light brownish gray (10YR6/2); decrease in oxidation staining; color intensity of potassium feldspar decreases to pink (7.5YR8/3) to pinkish gray (7.5YR7/2).	
The	data dat ti	presen	ted on of dri	this	s loc	g is a Ibsurfac	simpl e co	ificati nditio	on o	f act	tual ( liffer	CONTINUED ON NEXT PAGE conditions encountered and applies only at the at other locations and may change with the	e location of this boring

# BORING LOG

BORING NO.: GLA-3

PAGE: 2 OF 3

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL-WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER

DATE STARTED: 11/25/96
DATE FINISHED: 11/26/96
ELEVATION: 330 feet
NORTHING: ND
EASTING: ND

GW DEPTH: 21 feet TOTAL DEPTH: 150 feet

TIME START	TIME STOP	RATE, FT/MIN	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	ree	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
15:33						65		<u>\</u>			(60') — cuttings change in color to pale olive (5Y6/3); larger lithic fragments are gray (10YR6/1) to light brownish gray (10YR6/2); decrease in oxidation staining; color intensity of potassium feldspar decreases to pink (7.5YR8/3) to pinkish	
						70					gray (7.5YR7/2).  LEUCOGRANODIORITE. Weathered and decomposed. Cuttings are mixed yellow (10YR7/6) and grayish brown (10YR5/2) with minor reddish yellow (7.5YR7/6) potassium feldspar.	(65') — groundwater first encountered. Moderately wet.
						75 80					(70') — cuttings are light olive brown (2.5Y5/4). (75') — cuttings are olive brown (2.5Y4/3).	(70') — damp. Hole produces water at a rate of about 15 gpm.
						85		er experience de la constanta	ソンシンシンシン		(85') — slightly darker, more mafic.	
						90-			//\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		GRANODIORITE/TONALITE. Composed mostly of plagioclase, quartz and mafics. Slightly weathered. Dark greenish gray (584/1); larger lithic fragments are gray (N5);	(90') — moist.
16:03	16:01	1.43				95-			V		potassium feldspar is reddish yellow (7.5YR6/6). Less than 3% Fe—oxide staining on some quartz and feldspar dikes. TONALITE. Relatively unweathered. Gray (N5)	
0.00						105			) V	,	with little Fe-oxide staining.	
						110-			マ マ マ マ マ マ マ マ マ マ マ マ マ マ マ マ マ マ マ			
	<b></b> -					115			, , , , , , , , , , , , , , , , , , ,			
11/26	16:31					120-			1 V N N N N N N N N N N N N N N N N N N		(120') — minor (less than 5%) potassium feldspar.  CONTINUED ON NEXT PAGE conditions encountered and applies only at the	

# BORING LOG

BORING NO.: GLA-3

PAGE: 3 OF 3

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER

DATE STARTED: 11/25/96
DATE FINISHED: 11/26/96
ELEVATION: 330 feet
NORTHING: ND
EASTING: ND

GW DEPTH: 21 feet TOTAL DEPTH: 150 feet

# BORING LOG

BORING NO.: GLA-4

PAGE: 1 OF

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL-WALL REVERSE, AIR
CONTRACTOR: LAYNE - ENVIRONMENTAL
LOGGED BY: T. REEDER / M. VINCENT, CEG

DATE STARTED: 11/26/96
DATE FINISHED: 11/27/96
ELEVATION: 905 feet
NORTHING: ND
EASTING: ND

GW DEPTH: 103.2 feet TOTAL DEPTH: 240 feet

TIME	TIME STOP	RATE, FT/MIN	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	- FE	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGY FORMATION	DESCRIPTION	COMMENTS
1/26						0		-		XX	TOPSOIL: SILTY SAND with CLAY to CLAYEY SAND. Reddish brown (5Y3/3) to dark brown (7.5YR3/3), soft, loose. Less than 6"thick.	Moist.
						5				SP	ALLUVIUM: Coarse SAND with fine GRAVEL and angular felsic clasts. Pale yellow (2.5Y7/4) to very pale brown (10YR7/4).	(0.5') — damp.
						10-		~	1 7 2 2 2 2 3 4 4 5 5 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	<b>`</b>	TONALITE: Moderately weathered with minor quartz/ feldspar dikes.	Damp.
						15-			7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		TONALITE with less than 30% of quartz/feldspar dikes. Gray (N5).	
						20		-	>		(20') — increase in felsic cuttings to 50%.	
						25-			<b>汽</b>		LEUCOGRANODIORITE DIKE. Yellow (10YR7/6) with Fe-oxide staining. Cuttings are approximately 40% TONALITE and 60% LEUCOGRANODIORITE.	Damp.
						30					LEUCOGRANODIORITE DIKE (30—35%) in TONALITE. Weathered potassium feldspar is pink (5Y7/4). Cuttings are somewhat oxidized.	
						35		-				
1/27 6:58						40-			1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		TONALITE. Greenish gray (5GY6/1), phaneritic with fine crystallinity and anhedral to subhedral crystals. Moderately weathered and hydrothermolly altered. Hornblende and	
						45		_	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		biotite phenocrysts show moderate chlorite— epidote hydrothermal alteration.	
						50-		_	V		(49') — color change to greenish gray (108G6/1).	
						55			1 V A Z		TONALITE. Bluish gray (1085/1), phaneritic with fine crystallinity and anhedral to subhedral crystals; biotite— and hornblende—rich. Weak alteration to chlorite—epidote.	
7:27		~0.7				60-		_	1 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V <	ĺ	(61') — slightly higher mafic mineral content than above.	
The	data	present	ed on	this log	is a	simpli	fication	on o	act	ual c	CONTINUED ON NEXT PAGE conditions encountered and applies only at the at other locations and may change with the	location of this boring

## BORING LOG

BORING NO.: GLA-4

PAGE: 2 OF

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON

DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE - ENVIRONMENTAL
LOGGED BY: T. REEDER / M. VINCENT, CEG

DATE STARTED: 11/26/96
DATE FINISHED: 11/27/96
ELEVATION: 905 feet NORTHING: ND EASTING: ND

GW DEPTH: 103.2 feet TOTAL DEPTH: 240 feet

TIME START	TIME STOP	rate, ft/win	Water Sample Interval	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	FEET	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIA FORMATION	DESCRIPTION	COMMENTS
7:27						85			レン1		(61') — Slightly higher content of biotite than above(61'-65') — weak limonite staining on fracture surfaces. Slightly more chloritized biotite than above(65') — weak foliation as evidenced by preferred orientation of biotite crystals.	
						70 75-			1 V 2 1 V 2 V 2 V 2 V 2 V 2 V 2 V 2 V 2		(72') — slightly more felsic than above, with slight increase in crystal size from fine— to medium—crystallinity feldspar and homblende phenocrysts(75') — same as above.	(70') – dry.
7:51		~0.95				80			V		(80') — same as above.	Dry.
8:03						85— 90—			1 V 2 1 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2	A construction of the cons	(85') — same as above. (86'—92') — fracture zone with minor limonite and pyrolusite mineral coatings on fracture surfaces.	(90') – dry.
						95-			7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2		(94') — aplite dike(s) consisting mostly of potassium feldspar with minor quartz(95'—100') — minor limonite staining	
						100-		_	7 0 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7 0 7 0	The state of the s	visible on fracture surfaces(100'-105') - no visible oxidation.	Dry.
8:50						105-			1 V		(110'-115') light bluish gray (5B8/1),	(103.2') — groundwater sounded on 12/02/96.
						110-		+	V		feldspar— and quartz—rich felsic dike(s)(116'—120') — no visible dikes(120'—137') — abundant fragments of medium— to coarse—grained potassium—	Dry.
9:22			***			115-		1	V		feldspar and minor quartz dike(s). Host rock TONALITE shows evidence of moderate chlorite—epidote hydrothermal alteration. Fractures show possible zeolite veining with minor oxidation staining on non—mineral filled fractures. Host rock TONALITE is bluish	
						120-			7 V A 7	4	gray (5P85/1), aphanitic to phaneritic (very fine— to fine—crystallinity) with abundant biotite and hornblende.  CONTINUED ON NEXT PAGE conditions encountered and applies only at the	Dry.

# BORING LOG

BORING NO.: GLA-4

PAGE: 3 OF

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER / M. VINCENT, CEG DATE STARTED: 11/26/96
DATE FINISHED: 11/27/96
ELEVATION: 905 feet NORTHING: ND EASTING: ND

GW DEPTH: 103.2 foot TOTAL DEPTH: 240 feet

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TIME START	TIME	RATE, FT/MIN	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	-	E EVATION IN FEET	MATERIAL Symbol	ISCS/GEOLOX FORMATION	DESCRIPTION	COMMENTS
						125			1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2		(120'-137') — abundant fragments of medium— to coarse—grained potassium—feldspar and minor quartz dike(s). Host rock TONALITE shows evidence of moderate chlorite—epidote hydrothermal alteration. Fractures show possible zeolite veining with minor oxidation staining on non—mineral filled fractures. Host rock TONALITE is bluish gray (5PB5/1), aphanitic to phaneritic (very fine— to fine—crystallinity) with abundant biotite and hornblende.	(120') — dry(130') — dry. Moderately hard drilling.
8:08	and the second s					135		<del>-</del>	V			Groundwater sounded at 103.2' below ground surface on 12/02/96 at 6:55.  No free groundwater while drilling or stacking rods.
8:24						145		<b>_</b>	V	N. T.		Hard drilling. No free groundwater while drilling or stacking rods. (149.93') — groundwater sounded on 12/16/96.
8:36	And Andrews (April 1997)	and the same of th	intervenia de la constanta de	od operation		155			V		(154') — color change to bluish gray to dark bluish gray (1084.5/1) with increase in felsic mineral content and increase in crystal size to fine— to medium—crystallinity; anhedral to subhedral feldspar crystals. Cuttings show a weak foliation as evidenced by the segregation of mafic and felsic minerals, and by the preferred orientation of biotite crystals. No visible oxidation of fractures. Rock is unfractured	Hard to very hard drilling. No free groundwater encountered.
						170-			V		to weakly fractured. No chlorite-epidate alteration visible.	Hard to very hard drilling. No free groundwater encountered.
9:11						180-			7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z	7 4 7 4	(175') — same as above.  CONTINUED ON NEXT PAG	Hard to very hard drilling. No free groundwater encountered.

#### BORING LOG

BORING NO.: GLA-4

PAGE: 4 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE - ENVIRONMENTAL
LOGGED BY: T. REEDER / M. VINCENT, CEG

DATE STARTED: 11/26/96
DATE FINISHED: 11/27/96
ELEVATION: 905 feet
NORTHING: ND

EASTING: ND

GW DEPTH: 103.2 feet TOTAL DEPTH: 240 feet

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	FEET	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
9:10						180-			V / / /			
						185			1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2		(185') — same as above.	
e service de la constitución de la						190			7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V		(190') — better developed foliation with depth. No visible jointing or fracturing.	Hard to very hard drilling. No free groundwater encountered.
						195			1 - 2 4 - 2 4 7 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		(195'-240') — same as above.	1
9:43		,				200-			1 V 2 1 V 2 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4 7 V 4			Hard to very hard drilling No free groundwater encountered.
						205-			1 V Z Z V Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z			
						210-		- - - - -	V			Hard to very hard drilling No free groundwater encountered.
						215-			V			
10:23						220-			レ イ フ マ フ マ フ マ ス フ マ ス フ マ ス フ マ ス フ マ ス フ マ ス フ マ ス カ ス カ ス カ ス カ ス カ の よ の の の の の の の の の の の の の			Hard to very hard drilling No free groundwater encountered.
						225-			27 V 27 V			
						230-			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		•	Hard to very hard drilling No free groundwater encountered.
						235-			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Notes:  1. Total depth of borehole 240 feet. 2. Conductor casing set to 30 feet. 3. Open hole interval (exposed bedrock)	
	11:08	3				240-			⁷ /		between 30 and 240 feet below ground surface. 4. Groundwater first encountered between 103 and 140 feet. 5. Depth to water on 12/16/96 measured	
Th an	e data	Drese/	ted on	this lo	g is a ubsurfa	simn	lificat	ion o	of act	tual liffer	103 and 140 feet.	ne location of this boring passage of time.

# BORING LOG

DATE STARTED: 11/20/96 DATE FINISHED: 11/21/98

930 feet

BORING NO.: GLA-5

PAGE: 1 OF 4

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON

DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER

L—WALL REVERSE, AIR ELEVATION: 930
NE — ENVIRONMENTAL NORTHING: ND
REEDER EASTING: ND

TART	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGK FORMATION	DESCRIPTION	COMMENTS
1/20 1:20						5		ONE THE SECRET OF SECRET O	SAD.	COLLUVIUM/RESIDUAL SOIL: SILTY SAND with coarse-grained SAND and fine-grained GRAVEL and minor CLAY; sub-angular sand and gravel size clasts of TONALITE and LEUCOGRANODIORITE. Dark reddish brown (5YR3/3).	Damp.
e de la decaposopia de servir e la composição de la compo				***************************************		20		V	,	WEATHERED TONALITE. Light olive brown (2.575/3). Drills as a medium— to coarsegrained sand. Minor quartz and feldspar dikes.	Damp(20') — damp.
			The parameter of the pa			30-		V	N. T. S.	TONALITE. Gray (2,5Y6/1) to light brownish gray (2,5Y6/2). Moderately weathered. Drills as a fine— to coarse—grained sand with minor fine—grained gravel size fragments. Minor quartz/feldspar dikes.	Less damp.
5:57						40	11/21/9	7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7	4	TONALITE/QUARTZ DIORITE. Olive (5Y5/3) cuttings, with black (N2.5) and dark gray (N4) lithic fragments. More mafic than above. Drills as a fine—grained sand.	
						50		V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7 V < 7	X 4 X X X X X X X X X X X X X X X X X X	(50'-55') — color change to light brownish gray (2.5Y6/2) to olive gray (5Y6/2).	
						60		V	14	TONALITE. Gray (5Y6/1). Moderately weathered. Less mafic than above.	

## BORING LOG

BORING NO.: GLA-5

PAGE: 2 OF

JOB NO.: 9539
SITE LOCATION: GREGORY C
DRILLING METHOD: DUAL.-WALL
CONTRACTOR: LAYNE - E
LOGGED BY: T. REEDER

9539 Gregory Canyon Dual—Wall Reverse, Air Layne — Environmental DATE STARTED: 11/20/96
DATE FINISHED: 11/21/96
ELEVATION: 930 feet
NORTHING: ND
EASTING: ND

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	NI HLEGO	רבי	ELEVATION IN FEET	MATERIAL Symbol	USCS/GEOLOGK FORMATION	DESCRIPTION	COMMENTS
						65-			V		TONALITE. Gray (5Y6/1). Moderately weathered. Less mafic than above.	
16:27	16:24					80		The state of the s	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		(75'-80') — slightly more felsic, gray (2.5Y6/1) TONALITE; cuttings are sand—size with quartz/feldspar fragments.  TONALITE/QUARTZ DIORITE. Gray (N5) lithic fragments. More mafic than above; chlorite alteration of mafics.	
			- Control Cont			85 90			ン V Z T V Z T V Z T V Z T V Z T V Z T V Z T V Z T V Z T X Z T X Z T X Z T X Z T X Z T X Z T X Z T X X T X X T X X X X		(85'-90') — felsic cuttings increase to 20% (probably indicates quartz/potassium feldspar dikes in the TONALITE/QUARTZ DIORITE). Felsic fragments have pink (5YR7/4) potassium feldspar. Chlorite alteration of mafics in the TONALITE.	
						95			XX X X X X X X X X X X X X X X X X X X		GRANODIORITE. Bluish gray (5B6/1 to 5/1) with minor reddish yellow (5YR7/6); potassium feldspar and quartz cuttings. GRANODIORITE fragments are chloritized.	(93'-96') - "soft" drilling.
			and the state of t			100		⊻			White coatings on some fractures (zeolite?)(100') — decrease in felsic cuttings to less than 10%. Majority of cuttings are of TONALITE with granodiorite dikes; some feldspar and chlorite alteration of mafics; gray (N5).	(100') — moist.
11/21						110-			V	7	TONALITE. Gray (N5). Moderate to slightly weathered and fractured(110') — very minor fragments of quartz/feldspar with minor mafics as veins/dikes in TONALITE.	(105') — damp.
	7,75					115			V		TE TOTALLE.	
Th	7:35	Dreger	nted on	this ic	og is a	120-	ificati	ion o	> V V V V V V V V V V V V V V V V V V V	tual	CONTINUED ON NEXT PAGE conditions encountered and applies only at the at other locations and may change with the	e location of this boring

#### BORING LOG

BORING NO.: GLA-5

PAGE: 3 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOCGED BY: T. REEDER

DATE STARTED: 11/20/96
DATE FINISHED: 11/21/96
ELEVATION: 930 feet
NORTHING: ND

EASTING: ND

TART	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	# #	ELEVATION IN FEET	MATERIAL Symbol	USCS/GEOLOGI FORMATION	DESCRIPTION	CON	AMENTS
7:35						120		=					water coming
	1								7 ×			up hole.	
						125-			2 × × ×				
	:					125			V < A				
Ì									1 V V				
						130		_	2 4		TONALITE. Gray (N5). Slightly weathered;		
									1 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		fractured. Chlorite alteration of mafics. Less than 1% quartz/feldspar fragments from		
			}						- < ×	1	dikes, and a few rare fraaments of		
						135-			1 V < A 2 7 7 7 8 8	1	zeolite(?) from fracture infilling; minor iron oxide staining.		
									~ < ^				
						140-		_	2 V V				
									V V 4				
			ļ						ζΛ. 2 . 1 . V . V				
						145-		_	×				
									レベル				
						150		-	~ < V	<b>X</b>			
					<u> </u> 				7 7 7 7 7 7 7				
									V V	4			
:						155-		-	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1			
									V < 1	4			
						160-		-	ν < Λ > = Λ				
									1 4 4	}			
									7 7 V				
						165-		†	ν V	4	(165') — increase in felsic fragments to	Sample is	wet.
									\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4	40%.		
9:08	9:07	0.54				170		1	V < A	1	(4701)		
9.00	į.					"			1 0	']	(170') — increase in quartz/feldspar dikes. Decrease in chlorite alteration.	Drier.	
							<u> </u>		17 V	4			
						175-	<del> </del>	+	> < ^	4	(175') — decrease in felsic fragments to		
									\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4	less than 10%.		
	9:23	0.67						-	V < ^		TONALITE/QUARTZ DIORITE.		
9:27	0,20	3.37				180-		1	17 V < ^		(180') — less than 3% felsic fragments.	***************************************	
								_	7	4	CONTINUED ON NEXT PAGE		
Th	e data	presen	ted on	this in	a is a	amie	lificati	ion (	of ac	tual	conditions encountered and applies only at the at other locations and may change with the	e location a	f this boring

BORING LOG

BORING NO.: GLA-5

PAGE: 4 OF 4

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER

DATE STARTED: 11/20/96
DATE FINISHED: 11/21/96
ELEVATION: 930 feet
NORTHING: ND
EASTING: ND

CW DEPTH: 41 feet TOTAL DEPTH: 190 feet

	LOX	KED BY	: T. RE	EDER							EASTING: ND	
TIME START	TIME STOP	rate, ft/min	WATER Sample Interval	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	rtEl	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
		0.50	WATT SAMP SAMP INTER	SAMPLE	and mys	185— 195— 200— 215— 225— 230—			MATER    > \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		(190') — increase in felsic fragments. (190') — increase in felsic fragments to 10%.  Notes:  1. Total depth of borehole 190 feet. 2. Conductor casing set to 30 feet. 3. Open hole interval (exposed bedrock) between 30 and 190 feet below ground surface. 4. Groundwater first encountered at 100 feet. 5. Depth to water on 12/16/96 measured at 42.57 feet.	Lost bit downhole.
	And the second s				many dy family dy family dy family de assession	235-						

## BORING LOG

BORING NO.: GLA-7

PAGE: 1 0F

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL-WALL REVERSE, AIR
CONTRACTOR: LAYNE - ENVIRONMENTAL
LOGGED BY: T. REEDER

DATE STARTED: 11/21/96
DATE FINISHED: 11/21/96
ELEVATION: 403 feet
NORTHING: ND

GW DEPTH: 50 feet TOTAL DEPTH: 160 feet

EASTING: ND

TIME	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	NEPTH IN	<u>-</u>	ELEVATION IN FEET	MATERIAL Symbol	USCS/GEOLOCIC FORMATION	DESCRIPTION	COMMENTS
11/21 13:55						0		-	PASSESSESSESSES	SM SW	COLLUVIUM: SILTY SAND, coarse—grained; contains fine gravel fragments. Yellowish brown (10YR5/7).	Damp.
						5			1 108	SW	SAND (DG?). Light yellowish brown (2.5YR6/4). May be boulder of decomposed leucogranodiorite.	
						10-			V		DECOMPOSED ROCK (TONALITE?): Olive (5Y5/3). Drills as a fine— to medium—grained sand. Oxidized fragments of brownish yellow (10YR6/8) quartz/ potassium feldspar.	(10') — damp.
		<u> </u>				20-			V		TONALITE/DIORITE. Very dark gray (5Y3/1).	
						25			A V V A V A V A V A V A V A V A V A V A	4	Sub-angular to subrounded oxidized fragments.  TONALITE, Gray (N5), Highly weathered and	(25') — domp.
						30-			7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2	4	decomposed. Drills as an olive (5Y5/3), fine— to coarse—grained sand.	
						35-	12/	16/9	7 0 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	7 4 7 7		
						40-			ユーレン・レン・フ V < フ V < フ V < フ V < フ	4	(40') — color change to olive gray (5Y5/2 to 4/2).	
						45-		<u></u>	1 V 2 1 V 2 1	1 2 4		
			A CONTRACTOR OF THE CONTRACTOR			50-		$\nabla$	V	4		(50') — groundwater encountered.
			A Company of the Comp			55-		-	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4 7 7 4 7		
1/22 8:25	14:20				en de la companya de	60-			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4	TONALITE. Olive (5Y4/3). Highly weathered. Drills as a fine— to coarse—grained sand. Large fragments are gray (N5).  CONTINUED ON NEXT PAGE conditions encountered and applies only at the	

#### **BORING** LOG

BORING NO.: GLA-7

water in hole.

CONTINUED ON NEXT PAGE

OF 3 PAGE: 2

JOB NO.:

9539

GREGORY CANYON
DUAL-WALL REVERSE, AIR
LAYNE - ENVIRONMENTAL
T. REFDER

DATE STARTED: DATE FINISHED: ELEVATION: NORTHING: EASTING: 11/21/96 11/21/98 403 feet

ND ND

GW DEPTH: 50 feet TOTAL DEPTH: 160 feet

SITE LOCATION:
DRILLING METHOD:
CONTRACTOR:

	LOX	CED BY	T. R	EDER						EASTING: ND	
TIME START	TIME STOP	RATE, FT/MIN	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN FEET	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
8:25						60	<b>†</b>	7		TONALITE. Olive (5Y4/3). Highly weathered. Drills as a fine— to coarse—grained sand. Large fragments are gray (N5).	(60') — abundant water coming out of hole on 11/22/96.
				West of the second		85	_	1 V X Z V X X X X X X X X X X X X X X X X		(65') — moderately weathered TONALITE.	(65') — damp.
8:35	8:31	1.67				70		< 7 V V 7 V V V V V V V V V V V V V V V		(70') — color change to alive gray (5Y4/2). Lithic fragments are larger and appear less weathered.	(70') – moist.
		And the second s			- Andrew Control	75		<pre></pre>			
						80		7 V V 7 V V V V V V V V V V V V V V V V			
						85-		7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 Z 7		(85') — approximately 35% of lithic fragments are of white (N8) quartz/feldspot dikes. TONALITE fragments are very dark	(85') — moist.
						90		1 V 4 V V V V V V V V V V V V V V V V V		gray (N3).	
						95		V			
8:52	8:50	1.33				100		V		(100') — color of cuttings change to dark gray (N4). Lithic fragments of TONALITE are very dark gray (N3); less	(100') – wet.
			ļ			105		V		than 5% felsic fragments. Slight weathering	
			***************************************		- Lienaria	110		V C 7 V C 7	4		
						115		V	7 4	(115') — color of cuttings changes to very dark gray (N3). TONALITE fragments are very mafic with dark gray (N4)	
9:24	9:2	1 0.69				120		V	4	plagiociase (borderline GABBRO). Slightly weathered. Tonalite fragments are black (N2.5)	(120') — abundant

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

(N2.5).

# BORING LOG

BORING NO.: GLA-7

PAGE: 3 OF 3

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON

SITE LOCATION: GREGORY CANTON

DRILLING METHOD: DUAL—WALL REVERSE, AR

CONTRACTOR: LAYNE — ENVIRONMENTAL

LOGGED BY: T. REEDER

DATE STARTED: 11/21/96
DATE FINISHED: 11/21/96
ELEVATION: 403 feet
NORTHING: ND
EASTING: ND

GW DEPTH: 50 feet TOTAL DEPTH: 160 feet

		, OLD 01	. 1. 142			,						
TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	FEET	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
9:24				8	<i>S</i>	125-			V   X   V   V   V   V   V   V   V   V		same as above.	(120') — abundant water in hole.
9:54	9:49	0.80		Control of the Contro		140-			V A 1 V A 1 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2 V A 2		(140') — increase in felsics to 40% (probably derived from quartz/feldspar dikes in TONALITE).  GRANODIORITE. Gray (N6) with pale red	
						150-			1//1/ 27 V4 7 V4 7 V4		(2.5YR7/2) orthoclase feldspars. Olive (5Y4/4) chlorite/epidote alteration of some clasts, particularly along fracture surfaces.  TONALITE. Dark gray (N4) with less than 5% felsic fragments.	
	10:21	0.74	The state of the s	And Andrews and An		165-			7 7		GRANODIORITE. Gray (N6) with only rare pale red (2.5YR7/2) potassium feldspar.  Notes:  1. Total depth of borehole 160 feet. 2. Conductor casing set to 30 feet. 3. Open hole interval (exposed bedrock) between 30 and 160 feet below ground surface.  4. Groundwater first encountered at 50 feet. 5. Depth to water on 12/16/96 measured at 34.82 feet.	
									derente de la company de la co		d. 07.02 1000.	

# BORING LOG

BORING NO .: GLA-8

PAGE: 1 OF

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON DRILLING METHOD: DUAL—WALL REVERSE, AIR CONTRACTOR: LAYNE — ENVIRONMENTAL LOGGED BY: M. VINCENT, CEG; T. REEDER DATE STARTED: 11/24/96
DATE FINISHED: 11/25/96
ELEVATION: ND
NORTHING: ND
EASTING: ND

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN FEET	ELEVATION IN FEET	MATERIAL SYMBOL USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
1/24 9:20						5		V	WEATHERED BEDROCK — TONALITE. Light yellowish brown (10YR6/4). Phaneritic with fine—crystallinity, amphibole—rich and biotite—rich. Some hydrothermal alteration to chlorite—epidote facies(6') — color change to light gray (10YR7/1).	
						15		**************************************	(10') — color change to gray (2.5Y6/1). Less oxidation of biotite than above.	Conductor casing set to 15'. Begin drilling 5—inch diameter with downhole carbide button hammer.
						25		1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2 1 V 2	(24') — color change to gray (5Y6/1) to light olive gray (5Y6/2). Increase in chlorite—epidote alteration products and minor increase in iron—oxide alteration	
	Complete and the control of the cont					35		1	products.	
11:45						40		7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V	UNWEATHERED BEDROCK — TONALITE. Gray (5Y6/1). Phaneritic with fine—crystallinity, subhedral crystals, biotite and hornblende—rich. Pervasive, moderate to weak chlorite—	
		- Andrews - Andr				50		7	epidote hydrothermal alteration(53'-56') — color change to light	
					Action and the second s	55	11/25/	7	brownish gray (2.5Y6/2). Increase in jointing/fracturing as evidenced by increase in oxidation products and weathered feldspar phenocrysts.	
						1 11	6/96	7 4	CONTINUED ON NEXT PAG conditions encountered and applies only at the	

# BORING LOG

BORING NO.: GLA-8

PAGE: 2 OF

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON DRILLING METHOD: DUAL—WALL REVERSE, AIR CONTRACTOR: LAYNE — ENVIRONMENTAL LOGGED BY: M. VINCENT, CEG; T. REEDER DATE STARTED: 11/24/96
DATE FINISHED: 11/25/96
ELEVATION: ND NORTHING: ND EASTING: ND

60 1/25/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96  1/2/16/96	MENTS
red (10R4/3) feldspar. (78') - color change to greenish gray (5BG5/1). (81'-86') - TONALITE to GRANODIORITE. Phaneritic with medium crystallinity; subhedral to euhedral, white to light red (2.5YR6.5/8) potassium feldspar the cyclone. (2.5YR6.5/8) potassium feldspar the cyclone. (2.5YR6.5/8) 1/32-inch thick to trip rods mineral vein infilling (zeolite?) on some fracture surfaces. Mineral veins show some reaction with the host rock, as evidenced by epidote alteration envelopes. (83') - ia of sample entre cyclone. (2.5YR6.5/8) 1/32-inch thick to trip rods to repair do harmer(85') - st to trip rods to repair do harmer(86') - greation with the host rock, as evidenced by epidote alteration envelopes.	expelled from top at 12:28 out of hole ownhole roundwater . Mineral vein o not appear weak HCI ery dry.

# BORING LOG

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JOB NO.: 9539

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOCGED BY: M. VINCENT, CEG; T. REEDER

DATE STARTED: 11/24/96 DATE FINISHED: 11/25/96

ELEVATION: ND NORTHING: ND EASTING: ND

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	FEE	ELEVATION IN FEET	MATERIAL Symbol	USCS/GEOLOGI FORMATION	DESCRIPTION	COMMENTS
13:26						120-			V			2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
						125-		<del>-</del>	7 V		(128') — increase in mafic minerals with	
13:38						130-		<u> </u>	7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z 7 V Z		associated color change to brownish gray (1085/1)(135'-140') — healed fractures showing shear structures in possible hydrothermal	
14:25	13:45					135-		_	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1	(zeolite) mineral veins approximately 1/2—inch thick. Veins contain 1/32—inch to 1/16—inch diameter TONALITE fragments as inclusions. Vein materials are typically	(135') — stop drilling at 13:45 to trip out rods due to blockage in the
14:42			3			140-		_	(7 V ) 1 V		greenish gray (5BG6/1) in color with less than 1/64-inch thick iron-oxide and pyrolusite coatings between the vein material and the host-rock.	downhole hammer. Begin drilling with tri—cone bit.
15:32	15:10	0.22				145-			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		(143') — abundant olive gray to light red (2.5YR5/8), euhedral feldspar phenocrysts. A weak foliation is evidenced by the partial segregation of mafic and felsic minerals	(145') — stop drilling at 15:10. Trip out rods and replace tri—cone bit
						150-			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		and by the preferred orientation of platy feldspar and biotite phenocrysts. No visible signs of mineral veining on fracture surfaces(150') — minor occurrence of mineral	with downhole hammer.
15:44		1.11				155-		-	4 7 4 7 7 4 A 7 4 A 7 4 A 7 4 A 7 4 A 7 4 A 7 4 A 7 4 A 7 4 A 7 A 7	4	veining along fracture surfaces, along with non-mineralized fractures.	
						160-		<del> </del>	1 V 2 7 V	4	(160') — same as above.	
						185-		- - -	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4 1 2	(165') — same as above.	The state of the s
16:01		1.43			ووستريت	170-			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4 1 4	(169') — decrease in the amount of feldspar phenocrysts with light red (2.5YR5/8) coloration. Most phenocrysts are	
16:10		100010			, control	175			\7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \\ \7 \	7 7 7 7 V	white(172') — increase in amount of mineral veining with associated increase in chloritization. Possible fracture zone.	
						180			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	7747	(177') — most feldspar phenocrysts are colored light red (2.5YR5/8)(180'—185') — decrease in light red colored feldspar phenocrysts and increase i	n
									17	4	white colored feldspar.  CONTINUED ON NEXT PAGE  conditions encountered and applies only at the	

# BORING LOG

BORING NO.: GLA-8

PAGE: 4 OF

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL. LOGGED BY: M. VINCENT, CEG; T. REEDER DATE STARTED: 11/24/96 DATE FINISHED: 11/25/96 ELEVATION: NO NORTHING: ND EASTING: ND

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	ELEVATION	IN FEET	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
						185			7	(180'-185') — decrease in light red colored feldspar phenocrysts and increase in white colored feldspar.	
			} }			190			^	(190') — same as above.	
			t to			195-		1 2 3	×	(195') — same as above.	
						200-		Ľ	× × × × × × × × × × × × × × × × × × ×		
						205			< ^ 4	TONALITE — dark gray (N4), weathered, with some epidote alteration of feldspar, quartz and granodiorite veins.	(205') — wet.
						210			7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	CONTACT ZONE: mixed TONALITE and LEUCOGRANODIORITE — mineralogy includes: greenish gray (5G6/1), attered plagioclase; pale red (2.5YR7/2) to light red (2.5YR7/6)	
						215-		P.	7 4 V 4 7 V 4 7 V 4	orthoclase; white (N8) quartz and plagioclase; dark gray (N4) to dark greenish gray (5GY4/1) mafics (pyroxene, hornblende and biotite). Quartz—filled veins in some of the	
		a Commence		La constant		220-		1.5.2.2.2.3.	7 V X Y X Y X X Y X X X X X X X X X X X X	cuttings(215') — increase to 80% of cuttings of LEUCOGRANODIORITE with potassium—feldspar and some mafics.	
	2000			Alexander and a second a second and a second a second and		225-		4	7 VA Z VA Z	(220') — equal proportions in cuttings of greenish gray (5G6/1) TONALITE(?) to pale red (2.5YR7/2) LEUCOGRANODIORITE(225') — mix of dark gray (N4) TONALITE and light red (2.5YR7/2) LEUCOGRANODIORITE	
	Act of the second		***			230-		-	7 V	(230') — approximately 70% greenish gray (5G6/1), altered TONALITE and 30% pale	
						235-		-	7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2	red (2.5YR7/2) GRANODIORITE(235') — cuttings become darker due to increase in dark gray (N4) mafics.	
11/2 8:1						240-			7 4 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	(240') — TONALITE is dark gray (N4) with greenish gray (5G6/1), altered plagioclase and dark gray (N4) mafics. Decrease in potassium—feldspar/LEUCOGRANODIORITE fragments to less than 15%.	
8:1	- 4-4	prese	nted or	this I	og is (	qmie c	lification	on of	actual	fragments to less than 15%.  CONTINUED ON NEXT PAGE  conditions encountered and applies only at the at other locations and may change with the	ne location of this borin

#### LOG BORING

BORING NO .: GLA-8

PAGE: 5 OF

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON DRILLING METHOD: DUAL-WALL REVERSE, AIR
CONTRACTOR: LAYER - ENVIRONMENTAL
LOCGED BY: M. MINCENT CEC. T. DEET. DATE STARTED: 11/24/96
DATE FINISHED: 11/25/96
ELEVATION: ND
NORTHING: ND
FASTING: ND

GW DEPTH: 61 feet TOTAL DEPTH: 300 feet

	ш	, , ,	: M. VI		020, 1.	,	<del></del>	· 1	(2)	EASTING: ND	
TIME START	TIME STOP	rate, ft/min	Water Sample Interval	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN FEET	ELEVATION	NATERIAL Symbol	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
11/25 8:14						245		V	X X X X X X X X X X X X X X X X X X X	(240') — TONALITE is dark gray (N4) with greenish gray (5G6/1), altered plagioclase and dark gray (N4) mafics. Decrease in potassium—feldspar/LEUCOGRANODIORITE fragments to less than 15%(245') — increase in LEUCOGRANODIORITE fragments to about 30%; color intensifies to light red (2.5Y7/6)(250') — TONALITE color becomes lighter—gray (N5). Less than 5% LEUCOGRANODIORITE	
	8:35	0.95				255		2 1 V 2 1 V 2 1 V 2 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V	4 1 7 4 1 7 4 1 7 4 1	fragments. (255') — same as above, with minor greenish gray (5G6/1 to 5GB6/1), altered (chloritized?) plagioclase(260') — approximately 10% LEUCOGRANODIORITE fragments.  TONALITE/GRANODIORITE — gray (N5) to	
8:38			The second secon			265		21 V 21 V 21 V 21 V 2	4 <u> </u>	dark gray (N4), with some greenish gray (5G6/1), altered (chloritized?) plagioclase, and LEUCOGRANODIORITE dikes with less than 2% pale red (2.5YR7/2) to light red (2.5YR7/6) orthoclase(265') — mix of LEUCOGRANODIORITE and GRANODIORITE cuttings. Some greenish gray (5G6/1) altered plagioclase.	
	- Application					275		1 V A 1 V A 1 V A 1	4	(275') — same as above.	
8:58	8:54	1.25				285		V	4 7 7 4 7 7 4 7	(280') — orthoclase feldspar/ leucogranodiorite fragments decrease to less than 5%. (285') — increase in LEUCOGRANODIORITE fragments to approximately 35%.	
						290		7 V	4 7 7 4 7 7 4	(300') — decrease in orthoclase feldspar to approximately 15%; increase in greenish gray (5G6/1), altered plagioclase.	
	9:17	7 1.05				300		V	^4]/	NOTES:  1. Total depth of borehole 300 feet. 2. Conductor casing set to 15 feet. 3. Open hole interval (exposed bedrock) between 15 and 300 feet below ground surface. 4. Groundwater first encountered at 86 feet.	

#### LOG BORING

BORING NO.: GLA-9

5

PAGE: 1 OF

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER

12/05/96 12/07/96 ND

DATE STARTED: DATE FINISHED: ELEVATION: NORTHING: EASTING: ND ND

GW DEPTH: Not encountered TOTAL DEPTH: 300 feet

TART	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE	INCHES INCHES	SAMPLE NO.	DEPTH IN	132	ELEVATION IN FEET	MATERIAL Symbol	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
							5		<b>-</b>	7		DECOMPOSED TONALITE. Olive gray (5Y4/2). Highly weathered and decomposed. Drills as a fine—grained sand to silty sand with coarse—grained sand to fine—grained gravel size fragments.	Drilling on cut — all topsoil removed. Damp.
					A THE STATE OF THE		15		_			LEUCOGRANODIORITE DIKE. Light yellowish brown (2.5Y6/4) to pale yellow (2.5Y7/4). Highly weathered and decomposed. Fe—oxide staining, and oxidation and chloritization of mafics.	Damp.
		The state of the s					25-			// // / / / / / / / / / / / / / / / /		TONALITE. Dark gray (5Y4/1) to very dark gray (5Y3/1). Moderately weathered. Minor Fe—oxide staining; some chloritization of mafics.	Damp.
							35-			V		(35') — quartz veins in TONALITE.	
14:00					i Palias Androny		40-		,	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		GRANODIORITE dike in TONALITE (about 60% GRANODIORITE). Light gray (2.5Y7/2) to pale yellow (2.57/3). Oxidized; weathered; some epidote alteration of feldspar and chloritization of mafics.  DIORITE/TONALITE. Black (N2.5) to very dark	
							<b>4</b> 5-			1 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V	1	gray (N3). Slightly to moderately weathered. Altered biotite on some fragments; minor epidote alteration of some feldspars. Cuttings include fragments of GRANODIORITE oxidized with some epidote and chlorite alteration. (50') — very minor quartz/feldspar	<u>}</u>
14:22	14:20	) 1					55-		-	7	4 - 14 - 14 - 17 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27 4 - 27	fragments in cuttings.  GRANODIORITE dike in TONALITE. White (N8) and black (N2.5) mafics. Approximately 30% GRANODIORITE and 70% TONALITE.  DIORITE/TONALITE. Very dark gray (N3) to black (N2.5) with GRANODIORITE fragments in cuttings. Slightly weathered to fresh. Zeolite(?) and chlorite as fracture infillings; minor disseminated pyrite in veins and in host rock at contact.	

# BORING LOG

BORING NO.: GLA-9

PAGE: 2 OF

DATE STARTED: 12/05/96 DATE FINISHED: 12/07/96 ELEVATION: ND

GW DEPTH: Not encountered TOTAL DEPTH: 300 feet

ND ND

		BORING	LOG	
DRILLING METHOD:	GREGORY CANYON DUAL-WALL REVERSE, AIR LAYNE — ENVIRONMENTAL		DATE STARTED: DATE FINISHED: ELEVATION: NORTHING: EASTING:	1 N N

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
14:22						60		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		DIORITE/TONALITE. Very dark gray (N3) to black (N2.5) with GRANODIORITE fragments in cuttings. Slightly weathered to fresh. Zeolite(?) and chlorite as fracture infillings; minor disseminated pyrite in veins and in host rock.	
						70-				DioRitE. Very dark gray (N3) to black (N2.5). Slightly weathered to fresh; minor chloritization. No quartz/feldspar fragments.	(65') — damp to dry. Hard drilling.
			And the second s			75-					
14:46	14:43	0.95				80-					(85'-90') — very hard drilling. Broke tooth off
						90		1/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2			bit.
	15:19	0.61				95		イクイクイン			
15:24					- Japan	105		75/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1		DIORITE. Very dark gray (N3) to black (N2.5) with minor quartz/feldspar veins with some zeolite(?) alteration/infillings along fractures and chloritization.	
		To the state of th		L Liverton		110-		1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/	22, 22, 22		
				- Only of the	Account of the contract of the	115-		1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/			
								<u> </u>	14	CONTINUED ON NEXT PAG conditions encountered and applies only at the	E together of this boring

# BORING LOG

BORING NO.: GLA-9

PAGE: 2 OF

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER

DATE STARTED: 12/05/96 DATE FINISHED: 12/07/96

GW DEPTH: Not encountered TOTAL DEPTH: 300 feet

ELEVATION: ND NORTHING: ND EASTING: ND

TIME	TIME STOP	RATE, FT/MIN	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN FEET	ELEVATIO IN FEET	MATERIAL SYMBOL	USCS/GEOLC FORMATIC	DESCRIPTION	COMMENTS
14:22					****	65		2	/	DIORITE/TONALITE. Very dark gray (N3) to black (N2.5) with GRANODIORITE fragments in cuttings. Slightly weathered to fresh. Zeolite(?) and chlorite as fracture infillings; minor disseminated pyrite in veins and in host rock.	
			- Adjanta			70		7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V		DIORITE. Very dark gray (N3) to black (N2.5). Slightly weathered to fresh; minor chloritization. No quartz/feldspar fragments.	(65') — damp to dry. Hard drilling.
						75		V			
14:46	14:43	0.95				85		V			(85'-90') - very hard
					- Company Comp	90-		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	X		drilling. Broke tooth off bit.
						95		7 V	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
15:24	15:19	0.61	Li common			100		V		DIORITE. Very dark gray (N3) to black (N2.5) with minor quartz/feldspar veins with some zeolite(?) alteration/infillings along fractures and chloritization.	
						110-		V	4		
				The state of the s		115-		7 2 7 2 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	4		
						120		V < 7 3 7 V < 7	4	CONTINUED ON NEXT PAG	E

# BORING LOG

BORING NO .: GLA-9

PAGE: 3 OF

5

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL-WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOCGED BY: T. REEDER

DATE STARTED: 12/05/96
DATE FINISHED: 12/07/96
ELEVATION: ND
NORTHING: ND
EASTING: ND

GW DEPTH: Not encountered TOTAL DEPTH: 300 feet

TIME START	TIME STOP	rate, ft/min	WATER Sawple Interval	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	 ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
16:02	15:58	0.59		***************************************		120-	<b>-</b>	4 ν Λ η ν ν γ ν γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ			1 20
						125	<b></b>	ν Δ η ν Δ η ν γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ γ		(125') — no apparent quartz/feldspar dikes.	
						130		7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		DIORITE. Very dark gray (N3) to black (N2.5). Fresh; hard. Quartz/feldspar fragments with altered biotite and some	Rock is fractured, but very hard — breaking buttons off bit. Dry.
						135	<b></b>	V 3 1 V 3 1 V		epidote alteration of feldspars. Very minor disseminated pyrite. (135') — no apparent quartz/feldspar fragments.	
2/06 8:20						140-	 <b>-</b>	V			
		ı				145-	<del>-</del>	V A V A V A V A V A V A V A V A V A V A			
						150-		V A V A V A A V A A		DIORITE. Very dark gray (N3) to black (N2.5). Fresh; very hard; mostly unaltered.	
		4				155-	_	1 V A 1 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A 7 V A		Very minor quartz/feldspar fragments with some chloritized biotite.	
	8:46	0.77				160-	_	7 V A 7 V A			
				Abortino de la compansión de la compansi		165	_	1 1 V 1 V 1 V 1 V 1 V 1 V 1 V 1 V 1 V 1			
						170-	_	1 V V V			
				***************************************	Mary Control	175-		1 1 V 1 V 1 V 1 V 1 V 1 V 1 V 1 V 1 V 1		(175') - DIORITE with GRANODIORITE/ TONALITE dikes. Chlorite alteration, especially along contact of dikes with DIORITE.	
9:20						180-		1 V V V V V V V V V V V V V V V V V V V		Altered GRANODIORITE and quartz/feldspar dikes in TONALITE. Greenish gray (5G5/1). Chloritization of some fractures, and thin coatings of zeolite(?) along some fracture	Dry.
										surfaces.  CONTINUED ON NEXT PAGE conditions encountered and applies only at the	

#### LOG BORING

BORING NO .: GLA-9

PAGE: 4 OF 5

DATE STARTED: 12/05/96
DATE FINISHED: 12/07/96
ELEVATION: ND
NORTHING: ND
EASTING: ND

GW DEPTH: Not encountered TOTAL DEPTH: 300 feet

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOGGED BY: T. REEDER

TIME	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	DEPTH IN	NOTATION	IN PEET	MATERIAL Symbol	USCS/GEOLDGIC FORMATION	DESCRIPTION	COMMENTS
9:20						185		1	2		Altered GRANODIDRITE and quartz/feldspar dikes in TONALITE. Greenish gray (5G5/1). Chloritization of some fractures, and thin coatings of zeolite(?) along some fracture surfaces(185') — TONALITE without felsic fragments.	Dry.
					A de la companya de l	190		•	V		(190') — more mafic — DIORITE.	
				1000		195		-	ン 1 レ 2 1 レ 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V	1	(195') — minor quartz/feldspar fragments in cuttings.	
10:22	9:46	0.77				200		-	1 V V V V V V V V V V V V V V V V V V V		(200') — DIORITE/TONALITE. Dark gray (N4); increase in felsic fragments in cuttings.	Wait 20 minutes for water. No water.
						205		<b>+</b>	V			
						210		-	A / V / フ V		(210') — minor quartz/feldspar fragments in cuttings.	
	10:47	0.80				215			<pre></pre>	4	(215') — some chloritized fragments — look like fracture coatings; very dark gray (N3).	
10:51						225		· ·	7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2 7 2	4	TONALITE/DIORITE. Very dark gray (N3). Hard; fresh. Very minor granodiorite fragments with some disseminated pyrite(?).	
						230			マ V ベ フ V ベ フ V ベ フ V ベ フ V ベ フ V ベ フ		(225') — some chloritized fragments, dark greenish gray (5G4/1 to 5BG4/1). (230') — DIORITE. Dark gray (N4) to gray	
						235-			V	7 7 7 4	(N5). Less mafics.	
		0.83				240-		_	マペラ マペラ V	7 4 7 7 4		
11:20									17	4	CONTINUED ON NEXT PAG conditions encountered and applies only at the	

#### LOG BORING

BORING NO.: GLA-9

PAGE: 5 OF 5

JOB NO.: 9539 SITE LOCATION: GREG

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL
LOCGED BY: T. REEDER

DATE STARTED: 12/05/96
DATE FINISHED: 12/07/98
ELEVATION: ND
NORTHING: ND
EASTING: ND

GW DEPTH: Not encountered TOTAL DEPTH: 300 feet

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN FEET	EI EVATION	IN FEET MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
11:20	11:35	0.67				245		T レユイ レユイ レユイ レユイ レユイ レユイ レニー V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス フ V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V ス T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X T V X X T V X X T V X X X X	X 4	(250') — cuttings are very dark gray (N3) to gray (N4); minor quartz/feldspar fragments.	Changing bit. Fuel up. Let hole sit over one hour — end of sounder is moist, but no free water in hole.
14:53	14:48	0.48	- Annual			260-		V		(255') — DIORITE with no apparent quartz/feldspar dikes. More mafic; darker.	noie.
	45.50	0.75				270		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4 7 7 4 7 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7	(270') — very minor quartz/feldspar fragments in cuttings.	
12/07 8:30		0.35	- CONTRACTOR OF THE CONTRACTOR	Andreas - Andrea	eriter — horizont	285-		1 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V	4 7 7 4 7 7 4 7 7 7 7 7 7 7 7 7 7 7 7 7	TONALITE. Minor quartz/feldspar dikes with chloritized mafics along contact with TONALITE.	About 0.5" of water at bottom of hole on 12/0 (condensation?).
	8:5	7 0.74	and the second s		- Code -	295-		17 1/2 1/2 1/3	7/1/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/	TONALITE/GABBRO. Very dark gray (N3). Fresh; hard; tight. Minor quartz/feldspar dikes. Minor chloritization of some mafics.  NOTES: 1. Total depth of borehole 300 feet. 2. Conductor casing set to 30 feet. 3. Open hole interval (exposed bedrock) between 20 and 300 feet below ground surface. 4. No free groundwater encountered.	Used up 4 bits (last on only made it 20 feet) — too many carbide fragments in hole. Rubb fitting on bit broke.

# BORING LOG

BORING NO.: GLA-10

PAGE: 1 OF

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL—WALL REVERSE, AIR
CONTRACTOR: LAYNE — ENVIRONMENTAL.
LOCGED BY: M. VINCENT, CEG / T. REEDER

DATE STARTED: 12/03/96
DATE FINISHED: 12/05/96
ELEVATION: 325 feet
NORTHING: ND EASTING: ND

GW DEPTH: 33 feet TOTAL DEPTH: 150 feet

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
2/03 11:57						5		Name of the State	SW SM	ALLUVIUM: SAND to SILTY SAND — very fine— to medium—grained with minor coarse sand to pebbles, with boulders of granodiorite and lesser amounts of tonalite. SAND is poorly sorted, micaceous and feldspathic. Dark brown (7.5YR3/3.5).	Dry to damp.
						10		A STANSORT		(10'-20') — gradational color change to pinkish gray to brown (7.5YR5/2) with associated decrease in silt and micaceous minerals.	(10') — dry to damp.
						15		i Gossesii Seisesi			(15') — dry to damp. (17') — groundwater encountered.
						20	12/16/9	6		GRAVELLY SAND — poorly sorted, medium— to very coarse—grained, arkosic. Abundant	
12:35	12:16	1.32				25-			SW	subrounded to sub-angular, tonalitic and granodioritic GRAVEL to BOULDERS.	(25') — stop drilling to repair rig at 12:16. Start drilling again at 12:35.
						30		,	2	WEATHERED BEDROCK — TONALITE:	(33') – wet.
				<u>.</u> 		35		V V 7 V V 7	174174	Dark gray (2.5Y4/1) to dark grayish brown (2.5Y4/2). Phaneritic with fine— to medium— crystallinity. Biotite— and hornblende—rich. Weakly weathered with	(55) - #61.
	And Transport		-			40		V	774774	moderate to strong oxidation of biotite and hornblende to chlorite, and with minor alteration of feldspar crystals to clay.	(40') - wet.
						45-		1 V	4	(45'-50') - predominantly fine- crystallinity.	(45') — damp.
			,	- Annabayan		50-		V 2 7 V 2 7	7 7 7		(50') — moist to dry. Set conductor casing to 50' below ground surfac
						55-		V	7 7 7	(53') — color change to olive gray (5Y5/2).	(55') - dry.
						60-		フレンフレン	۸ <u>۱</u>		(60') – dry.
			<u> </u>			<u></u>		17		CONTINUED ON NEXT PAG conditions encountered and applies only at the	E leastion of this horizon

and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

## BORING LOG

BORING NO .: GLA-10

PAGE: 2 OF

JOB NO.: 9539

DATE STARTED: 12/03/96
DATE FINISHED: 12/05/96
ELEVATION: 325 feet

GW DEPTH: 33 feet TOTAL DEPTH: 150 feet

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL-WALL REVERSE, AIR
CONTRACTOR: LAYNE - ENVIRONMENTAL
LOGGED BY: M. WINCENT, CEG / T. REEDER

NORTHING: ND EASTING: ND

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE INCHES	SAMPLE NO.	OEPTH IN	ELEVATION IN FEET	MATERIAL SYMBOL INSTANTOR	FORMATION	DESCRIPTION	COMMENTS
						65		V		(62') — color change to dark greenish gray (10Y4/1).	(60') — dry.
						70		V		(70') — color change to pale olive to olive (5Y5.5/3)(73') — color change to greenish gray	
	17.04					75		7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V		(5GY5.5/1)(77') — color change to greensh gray(77') — color change to gray (N5).	
2/05 8:54	13:04					85		V		TONALITE/DIORITE. Very dark gray (N3).	(80') — stop drilling to set conductor casing to 50' below ground surface
						90		<pre></pre>		Weathered and moderately decomposed. Fe- oxide stained with altered mica and/or pyrite on oxidized pieces; chloritization of some mafics.  GRANODIORITE dikes in TONALITE. White (N8).	(87') — water productio from borehole while drillin approximately 5—6 gpm. (90') — wet.
					-	95-		1 V 2 1 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2 7 V 2		Contains black (N2.5) mafic minerals (biotite, hornblende and pyroxene). Very slight chloritization of some mafics (pyroxene) in very dark gray (N3), weathered and moderately decomposed TONALITE.	
9:27	9:25	0.65				100		7 V		(95') — less than 10% GRANODIORITE dike fragments in TONALITE(100') — 40% GRANODIORITE in TONALITE.	
						105		V		(105') — dark gray (N4) mixed TONALITE and GRANODIORITE.	Moist.
						110-				Gray (N5 to N6) GRANODIORITE.	
40.00	10:02	0.57			- Company of the Comp	115-				Gray (N5 to N6) GRANODIORITE/TONALITE.	(115') — wet.
10:05								塔		(120') — same as above.  CONTINUED ON NEXT PAG  conditions encountered and applies only at the	E.

# BORING LOG

BORING NO.: GLA-10

PAGE: 3 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON
DRILLING METHOD: DUAL-WALL REVERSE, AIR
CONTRACTOR: LAYNE - ENVIRONMENTAL
LOCGED BY: M. VINCENT, CEG / T. REEDER

DATE STARTED: 12/03/96
DATE FINISHED: 12/05/96
ELEVATION: 325 feet
NORTHING: ND

EASTING: ND

GW DEPTH: 33 feet TOTAL DEPTH: 150 feet

TIME START	TIME STOP	rate, ft/min	WATER SAMPLE INTERVAL	SAMPLE SIZE, INCHES	SAMPLE NO.	DEPTH IN	1	ELEVATION IN FEET	MATERIAL Symbol	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
10:05						120		_	四四		(120') — same as above.	Wet.
						125		_			(125') — less than 5% orthoclase feldspar.	
						130		_	7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V 7 V		(130') — no potassium—feldspar; less thon 5% GRANODIORITE dikes in TONALITE.	
10:47	10:44	0.51				135			V		(135') — increase in GRANODIORITE to approximately 50% of cuttings; moderately weathered, with minor pink potassium—feldspar.	
10.17						145			1 V 2 V 4 V 4 V 4 V 4 V 4 V 4 V 4 V 4 V 4		(140') — moderately weathered TONALITE with GRANODIORITE dikes.  Gray (N6), moderately weathered TONALITE/	(145') – wet.
	11:06	0.53				150			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		GRÁNÒDIÓRITE with some epidote/chlorite alteration. (150') — less than 1% epidote or zeolite alteration and fracture infillings.	
						155					Notes: 1. Total depth of borehole 150 feet. 2. Conductor casing set to 50 feet. 3. Open hole interval (exposed bedrock) between 50 and 150 feet below ground	
	The state of the s							<del> </del>			surface. 4. Groundwater first encountered at 33 feet. 5. Depth to water on 12/16/96 measured at 22.20 feet.	
						_						-
						-						

BORING NO.:

GLA-11

5 PAGE: 1 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WATER DEVELOPMENT CORPORATION

DATE STARTED: 11/30/99
DATE FINISHED: 11/30/99
ELEVATION: 775.22
NORTHING: 2070002.607

EASTING: 6300855,954

IME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO	DEPTH IN FEET	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOG FORMATION	DESCRIPTION	COMMENTS
8:42 8:46 9:0	5		9)	3	3	5 10 20 25 30 40 45 45			SM/ML	SOIL: Strong brown (7.5YR5/6) SILTY SAND to SANDY SILT with CLAY. SAND is fine— to medium—grained and moderately graded.  WEATHERED BEDROCK: Olive gray (5Y5/2), phaneritic, fine—grained, moderately weathered and oxidized HORNFELS. (28') — color grades to gray 5Y5/1.	Dry.
	The dat					50				UNWEATHERED BEDROCK: Dark gray (N4), phaneritic, fine-grained, subhedral, hornblend rich HORNFELS.  CONTINUED ON NEXT PARENTS	Dry.

BORING NO.:

GLA-11

2 OF 5 PAGE:

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WATER DEVELOPMENT CORPORATION
LOGGED BY: W. LOPEZ, CEG

DATE STARTED: 11/30/99 FINISHED: 11/30/99 ELEVATION: 775.22 DATE FINISHED:

NORTHING: 2070002.607 EASTING: 6300855.954

ME	ORY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO	DEPTH IN	1 1	ELEVATION IN PEET	MATERIAL SYMBOL	USCS/GEOLOGY FORMATION	DESCRIPTION	COMMENTS
				<u>~</u>	V'	50		-			UNWEATHERED BEDROCK: Dark gray (N4), phaneritic, fine-grained, subhedral, hornblend rich HORNFELS.	y.
						55		-				
						60-		<del></del>				
:25						65		_				
9:29						70					(70'-80') - moderately weathered.	
						75-				- Address of the second		
						80-						
9:50 9:55						85-						
						90-						
						95						
						100					Strong brown (7.5YR5/8) to white (7.5YR8/1), phaneritic, fine— to coarse—grained, moderately weathered, subhedral to euhedral GRANODIORITE dikes in HORNFELS with potassium feldspar phenocrysts.  CONTINUED ON NEXT PAGE	Dry.

BORING NO .:

GLA-11

5 3 OF

PAGE:

GW DEPTH: 231 feet TOTAL DEPTH: 243 feet

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WATER DEVELOPMENT CORPORATION

DATE STARTED: 11/30/99
DATE FINISHED: 11/30/99
ELEVATION: 775.22 NORTHING: 2070002.607

	LO	OGGED BY	Y: W. L	LOPEZ, C		CORPO	MAIRIN			EASTING: 6300855.954
TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	FEE! ELEVATION	MATERIAL CALIBOI	STMBOL USCS/GEOLOGIC FORMATION	DESCRIPTION COMMENTS
10:22 10:28						105				Strong brown (7.5YR5/8) to white (7.5YR8/1), phaneritic, fine— to coarse—grained, moderately weathered, subhedral to euhedral GRANODIORITE dikes in HORNFELS with potassium feldspar phenocrysts.
	1,000,000					110				HORNFELS with minor GRANODIORITE dikes.  Dry.
						115-				
11:00 11:05						125-				
						130-				
						135-				
		- La La Martine La La La Martine La La Marti				140-		-		(141'-144') - GRANODIORITE dike.
11:3						150				(150') — predominantly mofic with no dikes. Dry.
										CONTINUED ON NEXT PAGE

GLA-11 BORING NO.:

5 OF PAGE:

JOB NO.: 9539 SITE LOCATION: DRILLING METHOD:

GREGORY CANYON LANDFILL

AIR ROTARY WATER DEVELOPMENT CORPORATION

CONTRACTOR: LOGGED BY: W. LOPEZ, CEG DATE STARTED: 11/30/99
DATE FINISHED: 11/30/99
ELEVATION: 775.22
NORTHING: 2070002.607

EASTING: 6300855.954

IME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	7 E.C.1	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
***************************************						155		-			(150') — predominantly mafic with no dikes.	Dry.
				- Land Agent Control of the Control		160-		<del>~~</del>	***************************************			
2:22 2:26						165-		***				
				bioconomy .		170-		<b></b>				Dry.
	A. Carrier and Car			Account of		175-		_				
						180-						
13:04 13:10						185-					(ADD) ADAM ODIANONODITÉ dila	
						190-					(189'-191') - GRANODIORITE dike.	
						195-						
						200					CONTINUED ON NEXT PAGE	Dry.

BORING NO.:

GLA-11

PAGE: 5 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WATER DEVELOPMENT CORPORATION

E STARTED: 11/30/99 E FINISHED: 11/30/99 ELEVATION: 775.22 DATE STARTED: DATE FINISHED: 2070002.607

6300855.954

GW DEPTH: 231 feet TOTAL DEPTH: 243 feet

NORTHING: EASTING: LOGGED BY: W. LOPEZ, CEG

ПМЕ	ORY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	ELEVATION IN FEET	MATERIAL SYMBOL USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
3:47 3:51						210			same as above.	Dry.  Woit 30 minutes.  Obstruction encountered o
4:28 5:03						230	<u> </u>			158'. Tope is wet at 75'. Free groundwater encountered when drilling resumed.
15:27	7					240				Blow out water. Wait 10 minutes; borehole still produces water.
Т		And Angelow and An	And the second s	·	the state of the s	250			Notes:  1. Total depth of boring 243 feet. 2. Groundwater first encountered at 231 feet. 3. Manitoring well constructed on 12/2/99 (see Monitoring Well Completion Summary).	

BORING NO.:

**GLA-12** 

2

PAGE:

1 OF

GW DEPTH: 36.7 feet

TOTAL DEPTH: 66.0 feet

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL.
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WATER DEVELOPMENT CORPORATION LOGGED BY: W. LOPEZ, CEG

DATE STARTED: 11/24/99
DATE FINISHED: 11/24/99
ELEVATION: 343.91
NORTHING: 2070784.338 EASTING: 6299410.816

IME	ory density (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	ELEVATION IN FEET	MATERIAL Symbol	USCS/GEOLOGY FORMATION	DESCRIPTION	COMMENTS
8:16						0	<del>-</del>	JE386177611	SM/ ML	SOIL: Strong brown (7.5YR4/6) SILTY SAND to SANDY SILT with CLAY. SAND is fine—groined and poorly groded.	Dry.
						5-	<b>_</b>			WEATHERED BEDROCK: Strong brown (7.5YR4/4), fine-grained GRANODIORITE (GRUSS) weathered with iron- oxide staining and alteration of feldspar crystals to clay.	Damp.
						10	- -				
8:38			Li Li Marin Limo e con e			15	_			Yellowish brown (10YR5/4) to brownish yellow (10YR6/6), phoneritic, fine— to medium—	Damp. Switched from tri-cone bit
8:57						20-	_			grained, moderately weathered and oxidized GRANODIORITE.	to downhole hammer. Conductor casing set to 18'.
	- Anna Anna Anna Anna Anna Anna Anna Ann		A CONTRACTOR OF THE CONTRACTOR			25-	-			(23') — gradational color change to pale yellow (5Y7/3).	
						30-				UNWEATHERED BEDROCK: Pale yellow (5Y7/3), phaneritic, fine to coarse subhedral to euhedral GRANODIORITE with white to light red (2.5YR7/6) potassium feldspar	Moist.
				Annual Property of the Control of th		35-	<b>▼</b>	-		phenocrysts.	
9:30 10:18						40-					Wait 45 minutes. Sound water. Groundwater encountered at 38 feet.
						45					Very moist.
						50				(48') — color change to light olive brown (2.5Y4/3)same as above.	Very moist.
								上		CONTINUED ON NEXT PAGE conditions encountered and applies only at the other legations and may change with the	E location of this boring

BORING NO.:

GLA-12

2 PAGE: 2 OF

JOB NO.: SITE LOCATION:

9539 GREGORY CANYON LANDFILL DATE STARTED: 11/24/99 DATE FINISHED: 11/24/99 ELEVATION: 343.91

GW DEPTH: 36.7 feet TOTAL DEPTH: 66.0 feet

CONTRACTOR:

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WATER DEVELOPMENT CORPORATION

LOGGED BY: W. LOPEZ, CEG

NORTHING: 2070784.338 EASTING: 6299410.816

TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	ELEVATION	IN FEET MATERIAL	SYMBOL USCS/GEOLOGIC	FORMATION	DESCRIPTION	COMMENTS
						55-			The state of the s		same as above.	Very moist.
		The state of the s	And the state of t	La contract of the contract of		65			***************************************			Wait 2 hours. Sound for water. Groundwater sounded at 36.7 feet.
10:38						70-					Notes:  1. Total depth of boring 66 feet. 2. Groundwater first encountered at 38 feet. Static water level measured at 36.7 feet. 3. Manitoring well constructed on 11/24/99 (see Manitoring Well Completion Summary).	
						75						
		A CONTRACTOR OF THE CONTRACTOR	AND THE RESIDENCE OF THE PROPERTY OF THE PROPE			85-						
			- Make and the state of the sta		ALTERNATION AND ALTERNATION AN	90-						
	the state of the s		, Appendix			95-			LONG THE RESERVE TO T			
Ţ	he dati	o prese	nted or	n this	log is a Subsurfa	simp	lification	n of	actua y diff	ol fer	conditions encountered and applies only at t at other locations and may change with the	he location of this boring passage of time.

BORING NO.:

**GLA-13** 

1 OF 2 PAGE:

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL

DATE STARTED: 11/22/99
DATE FINISHED: 11/23/99
ELEVATION: 355.90
NORTHING: 2070269.329

GW DEPTH: 49.7 feet TOTAL DEPTH: 69.5 feet

LOGGED BY: W. LOPEZ, CEG

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WATER DEVELOPMENT CORPORATION

EASTING: 6298912.906

(LBS/CU, FT.)		BLOWS (COUNT/FT.	SAMPLE SIZE (INCHES)	SAMPLE NO	DEPTH IN	<u>.</u>	E EVA	SYMB	USCS/GE( FORIMA)	DESCRIPTION	COMMENTS
					0		-	485 VOD 1650	SM/ ML	SOIL: Light yellowish brown (10YR6/4) SILTY SAND to SANDY SILT. SAND is fine—grained and poorly graded.	Dry.
					5		<del></del>			WEATHERED BEDROCK: Strong brown (7.5YR5/8 to 7.5YR4/6), fine- grained TONALITE (GRUSS). Weathered with Fe- oxide staining and alteration of feldspar	Damp.
				i i i i i i i i i i i i i i i i i i i	10		-			crystols to cluy.	
			- Landania de la companyo de la comp		15-		_				
					20-						Switched from tri-cone to button bit.
	The state of the s	THE STATE OF THE S		er e	25-					Olive (5Y5/3) to olive gray (5Y5/2), phaneritic, hornblend— and quortz—rich fine— to coarse—grained TONALITE with strong oxidation of hornblend and biotite phenocrysts.	Domp.
					30-					(30') - color grades to gray (5Y6/1).	
			L		35		- - - -				
					40-						
		- Andrews	d depart		45-						Damp.
	and the state of t				50-					with lesser mafic minerals. Shows minor effects of iron—oxide staining.	
	data			data presented on this	data presented on this log is a	10- 15- 20- 25- 30- 35- 40- 45- 50-	10- 15- 20- 25- 30- 35- 40- 45- 50-	10- 15- 20- 25- 30- 35- 40- 45-	10- 15- 20- 25- 30- 35- 40- 45- 50-	10- 15- 20- 25- 30- 35- 40- 45- 50-	Strong brown (7:57K3/8 to 7:57K4/6), fine- grained TOMALITE (GRUSS). Weathered with Fe- oxide staining and alteration of feldspar crystals to clay.  Olive (5Y5/3) to alive gray (5Y5/2), phoneritic, hornblend—and quartz—rich fine— to coarse—grained TOMALITE with strong oxidation of hornblend and biolite phenocrysts. (30') — color grades to gray (5Y6/1).  UNWEATHERED BEDROCK: Dork gray (5Y4/1) to white (5Y8/1), phoneritic, fine— to coarse—grained TOMALITE to GRANDDIORITE with abundant felsic minerals with lesser mafic minerals. Shows minor

BORING NO.:

GLA-13

2 OF PAGE:

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL.
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WATER DEVELOPMENT CORPORATION
LOCGED BY: W. LOPEZ, CEG

DATE STARTED: 11/22/99
DATE FINISHED: 11/23/99
ELEVATION: 355.90

NORTHING: 2070269.329 EASTING: 6298912.906

GW DEPTH: 49.7 feet TOTAL DEPTH: 69.5 feet

TIME	ory density (LBS/Cu. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO	DEPTH IN	FIEVATION	N FEET	MATERIAL Symbol	USCS/GEOLOGY FORMATION	DESCRIPTION	COMMENTS
						50					UNWEATHERED BEDROCK: Dark gray (5Y4/1) to white (5Y8/1), phaneritic, fine— to coarse—grained TONALITE to GRANODIORITE with abundant felsic minerals with lesser mafic minerals. Shows minor effects of iron—oxide staining.	Moist.
16:04 11/23						60		· 조,				Wait 20 minutes. Sound for water. Groundwater encountered at 58 feet and rising.  Very hard drilling. Water
7:46	A Control of the Cont			-	- Landard State Control of the Contr	65		•				enters borehole while drilling.
8:22				ALLEGO PARTIES AND	-	70- 75-		-			Notes:  1. Total depth of boring 69.5 feet. 2. Groundwater first encountered at 58 feet. Static water level measured at 49.7 feet. 3. Monitoring well constructed on 11/23/99 (see Monitoring Well Completion Summary).	
						80- 85-		_				
			A STATE OF THE STA		- Lipping - Lipp	90						
		A STREET, STRE	The state of the s			95						
		ta pres									1 conditions encountered and applies only at	the location of this boring

BORING NO.: GLA-14

2 PAGE: 1 OF

JOB NO.: SITE LOCATION:

9539 GREGORY CANYON LANDFILL

DATE STARTED: 11/21/99

GW DEPTH: 36.5 feet TOTAL DEPTH: 63 feet

DRILLING METHOD: AIR ROTARY CONTRACTOR: WATER DEVELOPMENT CORPORATION

LOGGED BY: W. LOPEZ, CEG

DATE FINISHED: 11/21/99 ELEVATION: 332.21 NORTHING: 2069847.129 EASTING: 6298115.681

TIME	ORY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.		DEPTH FEET FEET ELEVATION FEE		SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
7:35						0-			SEES SEES SEES SEES	SM/ ML	SOIL: Dark yellowish brown (10YR4/4) SILTY SAND to SANDY SILT with CLAY. SAND is fine—grained and poorly graded.	Dry.
7:47 7:53						5			6)\65(\\$9)\65(\\$			
						10			564469869868868			
8:08 8:13						15					WEATHERED BEDROCK: Strong brown (7.5YR5/8), fine—grained TONALITE (GRUSS) weathered with iron—oxide staining and alteration of feldspar crystals to clay.	Damp.
						20-					Light olive gray (5Y6/2) to gray (5Y5/1), phaneritic, fine— to coarse—grained, hornblend and quartz rich TONALITE with oxidation of hornblend and biotite phenocrysts(20'-22') — white (5Y8/1), unweathered	Hord drilling.
8:33 8:48 10:30						25-					GRANODIORITE dike composed of predominantly quartz and feldspar phenocrysts.	
15:00					in the second se	30~						
		The state of the s				35-		<b>X</b> .				Moist.
15:45						40-						
15:20						45-		- Ā				(42") — groundwater first encountered.
15:26 15:52						- 50-					UNWEATHERED BEDROCK: Dark gray (5Y4/1), phaneritic, subhedral, fine grained, biotite— and hornblend—rich TONALITE	•
Ī	ne date	prese the tim	ented one of d	n this trilling.	log is Subsuri	a simp face co	lificatio ondition	n ol s m	f ac ay	tual diffe	CONTINUED ON NEXT PAG conditions encountered and applies only at the r at other locations and may change with the	he location of this boring

BORING NO.: GLA-14

2 PAGE: 2 OF

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WATER DEVELOPMENT CORPORATION
LOGGED BY: W. LOPEZ, CEG

DATE STARTED: 11/21/99
DATE FINISHED: 11/21/99
ELEVATION: 332.21
NORTHING: 2069847.129

EASTING: 6298115.681

GW DEPTH: 36.5 feet TOTAL DEPTH: 63 feet

TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	ELEVATION IN PEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
5:52						55-	_			UNWEATHERED BEDROCK: Dark gray (5Y4/1), phoneritic, subhedrol, fine- grained, biotite- and hornblend-rich TONALITE.	Groundwater air lifted out of boring while drilling.
6:15						60-	_				
						65-	-			Notes:  1. Total depth of boring 63 feet. 2. Groundwater first encountered at 42 feet. Static water level measured at 36.5 feet. 3. Monitoring well constructed on 11/22/99	
						70-	_			(see Monitoring Well Completion Summary).	
						75-					
						80					and the state of t
						85					
						90-	† 				
						95-					
					i de moraro (novembro)	100-	~			conditions encountered and applies only at the	

BORING NO.: GLA-15

1 OF PAGE: GW DEPTH: 12 feet

TOTAL DEPTH: 50 feet

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WATER DEVELOPMENT CORPORATION
LOGGED BY: W. LOPEZ, CEG

DATE FINISHED: 11/19/99 ELEVATION: 304.82 NORTHING: 2068403.283 EASTING: 6297080.768

DATE STARTED: 11/19/99

			F			z	z.	. ر	8×	CASTANO. 0237000.700	
TIME	ory densi (LBS/Cu. F	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO	DEPTH IN	ELEVATION IN FEET	MATERIA	USCS/GEOLC FORMATIC	DESCRIPTION	COMMENTS
13:10	*					0-7			SM/ ML	ALLUVIUM: Light olive brown (2.5Y5/3) SILTY SAND to SANDY SILT. SAND is very fine—grained, poorly graded and micaceous.	Dry.
13:20 13:34						5		40.000,000	SM	Dark grayish brown (2.5Y4/2), poorly graded, fine— with trace of medium—grained, micaceous SILTY SAND.	Moist.
						10	<b>_</b>	SADARAN KANDARAN			Very moist.
13:47 13:53						15		SELECTIVE SELECTION		(15') — SAND grades to fine— to medium—grained.	Slightly wet.
						20-		58.50.00.00.00.00.00.00.00.00.00.00.00.00.	- description of the second		
						25	<u> </u>	West of the street of			(25') — groundwater first encountered.
						30-		13.67.25.45.36.25.45.45.45.45.45.45.45.45.45.45.45.45.45			Slightly wet.
14:15 16:50						35		Keess est sections		(35') — contains trace amounts of coarse- grained SAND and GRAVEL.	Groundwater air lifted out of borehole while drilling.
				1 7490097		40-		120000000000000000000000000000000000000			
				Language Control of the Control of t	A A A STATE OF THE	45-				Notes:	
17:10						50		- 1		1. Total depth of boring 50 feet. 2. Groundwater first encountered at 25 feet. Static water level measured at 12 feet. 3. Monitoring well constructed on 11/20/99 (see Monitoring Well Completion Summary).	
Ti a	ne dat nd at	a prese the tim	nted o	n this rilling.	log is a Subsurfa	simpl ce co	lification nditions	of a may	ctual diffe	conditions encountered and applies only at t r at other locations and may change with the	ne location of this boring

BORING NO.:

GLA-16

1 PAGE: 1 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: HOLLOW STEM AUGER - 8*
CONTRACTOR: WATER DEVELOPMENT CORPORATION
LOGGED BY: W. LOPEZ, CEG

DATE STARTED: 12/20/99
DATE FINISHED: 12/20/99
ELEVATION: 305.28

NORTHING: 2068429.193 EASTING: 6297089.329 GW DEPTH: 10.6 feet TOTAL DEPTH: 33.5 feet

TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	FEE	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
10:00						0		-		SM/ ML	ALLUVIUM: Light olive brown (2.5Y5/3) SILTY SAND to SANDY SILT. SAND is very fine-grained, poorly graded and micaceous.	Dry.
				***************************************		5		_	entroycovsonco	SM	Dark grayish brown (2.5Y4/2), poorly graded, fine— with trace of medium—grained, micaceous SILTY SAND.	Moist.
						10-		Ā	A CEST ON CONTROL OF			Slightly wet. (10.6') — groundwater first encountered.
						15-						
						20-		<del></del>	A STATE OF THE STA			
				ATT AND THE PARTY OF THE PARTY		25-			3676575057658			
10:15						30		<del></del>	SANGERON SERVICE			
						35-					Notes: 1. Total depth of boring 33.5 feet. 2. Groundwater first encountered at 10.6 feet. 3. Monitoring well constructed on 12/20/99 (see Monitoring Well Completion Summary).	
						40-		<b>-</b>			(see monitoring new sompletion sommon).	
						45-		_				
			With the second			50-		_				

DATE STARTED: 6/16/04 DATE FINISHED: 6/18/04

ELEVATION: ND
NORTHING: ND

BORING NO.: GLA-17

PAGE: 1 OF 5

GW DEPTH: NA TOTAL DEPTH: 500 feet

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: A. FYODOROVA

EASTING: ND DRY DENSITY (LBS/CU. FT. SAMPLE SIZE (INCHES) COUNT/FT DEPTH FEET DESCRIPTION COMMENTS WEATHERED BEDROCK: 8:48 Damp. Gray to dark gray (N4-N5), fine, hightly weathered, poorly indurated TONALITE. ...(5') - intermittent apatite dikes. 8:55 10-9:24 ...(10') - highly to moderately weathered, ...(10') - set conductor moderately indurated. casing to 10 feet. ...(15'-18') - light yellowish brown (10YR Damp. 6/4) GRANODIORITE dike with fine to coarse 9:31 euhedral crystals. 20 9:36 ...(22'-23') - brown (7.5YR 5/2), fine to Domp. medium GRANODIORITE dike. 30 ...(33') - fine to medium with some iron-oxide staining. 9:47 40-9:53 BEDROCK: Very dark gray (N3), aphanitic to fine, slightly to moderately weathered, well indurated 50 TONALITE with some iron-oxide staining. ...(50') — inject water for dust control. 10:06 60-10:16 70-...(69') - color change to dark grayish brown (2.5Y 4/2).10:24 80 10:31 90 ...(96') - quartz vein. 10:41 100 10:50

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

CONTINUED ON NEXT PAGE

BORING NO.: GLA-17

PAGE: 2 OF 5

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL DRILLING METHOD: AIR ROTARY CONTRACTOR: WDC EXPLORATION AND WELLS

DATE STARTED: 6/16/04
DATE FINISHED: 6/18/04
ELEVATION: ND
NORTHING: ND

GW DEPTH: NA TOTAL DEPTH: 500 feet

	ĽĊ	OGGED B	Y: A F	YODORO	VA						EASTING: ND	
	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	100-	FEET	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
10:50						100-						
						110-						
11:09 11:17						120-			<b>T</b>		(119') — fine to medium with some iron—oxide staining, slightly weathered(125') — color change to pale alive (5Y	
						130-		_			6/3); fine to coarse, moderately weathered, some iron-oxide staining(134') — color change to olive gray (5Y	
11.70											5/2); thin apolite dike.	
11:30 11:35						140-		<b></b>				
_	7 47 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7					150-				***************************************	(150') — fine—grained.	
11:51 12:18						160-					(166') — calcite veins.	
		**************************************				170-					(170'-173') - pale brown (10YR 6/3) to brown (10YR 5/3), fine to coarse GRANODIORITE dike with some iron-oxide staining.	-
12:36 12:42						180-		-			(173') — dark gray (N4) to black (N2.5), aphanitic to fine, very well indurated TONALITE with thin calcite veins.	
SERVICE AND						190		-			(105)	(192'-196') - no cuttings return.
13:13						200-		_			(196') — predominately fine euhedral crysals.	
13:20												
							<u> </u>				CONTINUED ON NEXT PAGE	

DATE STARTED: 6/16/04 DATE FINISHED: 6/18/04 ELEVATION: ND

GW DEPTH: NA TOTAL DEPTH: 500 feet

BORING NO.: GLA-17

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PAGE:

STE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: A. FYODOROVA

JOB NO.: 9539

PLORATION AND WELLS NORTHING: ND CROVA EASTING: ND

TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	1	EVATION   FEET	MATERIAL SYMBOL	S/GEOLOGIC RMATION	DESCRIPTION	COMMENTS
	89	ž	_8	<b>₹</b> ≅	\$			급폭	30	ន្តិន		A CHILLIAN EL MA
13:20						200-		T -			same as above.	
								-				
						210	-	-				
							-	-				
13:53						220		_				
14:00						_*						
						070						
						230						
14:34												
14:34						240		-				
	:											
						250		-				
									:			
15:13						260-						
15:19												
			;									
						270-		_				
15:15												
6/17						280		-				
7:15												
						290		-			(290–300') – predominately aphanitic.	
											(230—300) — predominately aphantic.	1
							$\vdash \vdash$					
7:50 7:54						300		_				
7:54		1				-w					(300') — dark gray to gray (N4—N5), fine to medium, very well indurated TONALITE.	
		1									CONTINUED ON NEXT PAGE	

BORING NO.:

GLA-17 4 OF

JOB NO.:

9539 SITE LOCATION: GREGORY CANYON LANDFILL DATE STARTED: 6/16/04 DATE FINISHED: 6/18/04 ELEVATION: ND

GW DEPTH: NA TOTAL DEPTH: 500 feet

PAGE:

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: A. FYODOROVA

NORTHING: ND

IME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	E .	ELEVATION IN FEET	MATERIAL	SCS/GEOLOGIC FORMATION	EASTING: ND  DESCRIPTION	COMMENTS
7:54						300-		-			(300') — dark gray to gray (N4—N5), fine to medium, very well indurated TONALITE.	
											Theorem, very wen inducated formula.	
					:	310		-				
3:29												
3:34						320		_				
						330-	<u> </u>	-				
9:13												
9:23						340						
						350		-				
9:58						360-						
0:10						300					(360') — fine to ophonitic with colcite veins.	
						370-		-				
1:01						380		_				
:12												
						390		-				
:49						400		_				
2:01												
											CONTINUED ON NEXT PAGE on Militions encountered and applies only at the la	

#### GeoLogic Associates BORING NO .: GLA-17 Boring Log 5 OF PAGE: DATE STARTED: 6/16/04 DATE FINISHED: 6/18/04 JOB NO.: 9539 GW DEPTH: NA SITE LOCATION: GREGORY CANYON LANDFILL TOTAL DEPTH: 500 feet DRILLING METHOD: AIR ROTARY ELEVATION: ND WDC EXPLORATION AND WELLS CONTRACTOR: NORTHING: ND LOGGED BY: A. FYODOROVA EASTING: ND DRY DENSITY (LBS/CU. FT.) BLOWS (COUNT/FT.) DEPTH . TIME DESCRIPTION COMMENTS 12:01 ..same as above. 12:18 410 6/18 7:54 8:10 420 8:14 430 9:03 9:08 450 9:41 460 9:48 470-10:16 480 10:21 490-1. Total depth of boring 500 feet. 11:00 2. No groundwater encountered. 500-3. Borehole geophysics conducted on 6/21/04. 4. Boring abandoned with neat cement grount on 6/22/04. The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

BORING NO .: GLA-3S

PAGE:

1 OF

JOB NO.: 9539 DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: A. FYODOROVA

SITE LOCATION: GREGORY CANYON LANDFILL

DATE STARTED: 6/14/04 DATE FINISHED: 6/15/04 ELEVATION: ND NORTHING: ND

EASTING: NO

GW DEPTH: 24.37 feet TOTAL DEPTH: 80 feet

TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	75	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
8:40						5				SW	YOUNGER ALLUVIUM: Dark brown (10YR 2/2) GRAVELLY SAND with COBBLES and BOULDERS. SAND is fine to medium, well graded; GRAVEL and COBBLES well rounded. (6') — color change to brown (75YR 5/4).	Moist.
8:48 6/15 8:33			THE PROPERTY OF THE PROPERTY O			10- 15-					(12') — BOULDER. (14') — SAND is fine to coarse with volcanic COBBLES.	Refusal on boulder, switch to Stratex.
			TOOPTOPPARAMETERS AND			20-		The state of the s		SM	(17') — increasing GRAVEL, COBBLES, and BOULDERS.  OLDER ALLUVIUM: Light brown (7.5YR 6/4) SILTY SAND with	Moist.
8:52						25 30-		<u></u>	KARAKON PARANSAKAN		scattered GRAVEL. SAND is fine to coarse, well graded(26') — color change to yellow—brown (7.5YR 4/4).	Very moist
						35			TAPATAN PARAMANAN		(31') increasing GRAVEL and COBBLES cemented with silica, well indurated.  WEATHERED BEDROCK:	Moist.  Very moist.
						40-					Olive (5Y 5/4), highly weathered with iron—oxide staining and alteration of feldspars to CLAY, medium to coarse GRANODIORITE (GRUSS)(41') — color change dark brown (10YR 3/3).	(37') — set conductor casing.
9:40 9:54						45					(44'-47') — apolite dike, fine to coarse, well indurated(47') — moderately weathered.	(44') — domp.
10:00 13:29	······································					50-		- 고			(49') — iron—oxide staining on fractured surfaces(51') — apalite vein.  CONTINUED ON NEXT PAGE	(52') – wet.

GLA-3S BORING NO.:

> PAGE: 2 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL

DATE STARTED: 6/14/04 DATE FINISHED: 6/15/04

GW DEPTH: 24.37 feet TOTAL DEPTH: 80 feet

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: A. FYODOROVA

ELEVATION: NO NORTHING: ND EASTING: ND

	EUGGED BI: A FIODOROVA										EASTING: NU	
TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	9 DEPTH IN	FEET	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
10:00 13:29						<b>5</b> 0		₹			(51') — apalite vein.	(52') - wet.
13:31 13:36 13:42						55-		_	-		(58') — increasing mafic minerals.	Soturated.
13:48						60-		-			(50) maleosing financ minerals.	Solution.
						65						
						70-		_				
						75-		_				
14:00						80-					Notes:	
						85		-			<ol> <li>Total depth of boring 80.0 feet; borehole open to 77.5 feet.</li> <li>Groundwater first encountered at 52.0 feet on 6/15/04; static water level measured at 24.37 feet on 6/17/04.</li> <li>Borehole geophysics performed on 6/18/04.</li> </ol>	
						90		-			<ol> <li>Borehole abandoned with neat cement grout on 6/23/04.</li> </ol>	
						95-		-				
						100		-				

BORING NO.:

GLA-A

2

PAGE: 1 OF

JOB NO.: 9539 SITE LOCATION: GREG DRILLING METHOD: AIR R

GREGORY CANYON LANDFILL AIR ROTARY DATE STARTED: 6/08/04 DATE FINISHED: 6/09/04 ELEVATION: 429575.97 GW DEPTH: 75.12 feet TOTAL DEPTH: 105 feet

CONTRACTOR: WDC EXPLORATION LOGGED BY: W. LOPEZ, CHG

WDC EXPLORATION AND WELLS

NORTHING: 1737085.44 EASTING: 377.49

DRY DENSITY (LBS/CU. FT.) MOISTURE (X) BLOWS (COUNT/FT.) SAMPLE SIZE (INCHES) TIME DESCRIPTION COMMENTS 16:50 Strong brown (7.5YR 4/6), fine, poorly graded SILTY SAND. WEATHERED BEDROCK: Slightly moist. Olive brown (2.5Y 4/3), fine, highly weathered with iron-oxide staining, poorly indurated 10 TONALITE (GRUSS). ...(16') - set conductor ...(18') - color change to dark gray (2.5Y casing, switch to downhole hommer. 4/1); moderately to slightly weathered, 17:00 20moderately indurated. 6/07 7:15 BEDROCK: Dry. Black (N2.5), fine to medium, homblend rich with quartz, moderately indurated TONALITE. 25 7:22 7:32 ...(30') - color varies from black (N2.5) to Dry. dark gray (2.5Y 4/1). 35 7:55 8:23 60-CONTINUED ON NEXT PAGE The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring

and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

GLA-A BORING NO.:

> PAGE: 2 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS

DATE STARTED: 6/08/04 DATE FINISHED: 6/09/04 ELEVATION: 429575.97

GW DEPTH: 75.12 feet TOTAL DEPTH: 105 feet

LOGGED BY: W. LOPEZ, CHG

NORTHING: 1737085.44 **EASTING: 377.49** 

пме	ory density (Les/Cu. Ft.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	FEE	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
						60-					same as above.	
8:42 8:56	······································					65~						
						70~						
						75-		<u>*</u>				
						80-						
9:13 9:30						85		고			(83'-95') - color predominately dark gray (2.5Y 4/1); increasing quartz and feldspar.	Cuttings moist(85') - first water encountered.
		***************************************				90		-				
						95		_				
						100~		_				
9:55						105-					Notes:	
						110-		<u>-</u>			<ol> <li>Total depth of boring 105 feet.</li> <li>Groundwater first encountered at 85 feet, static water level measured at 75.12 feet on 6/11/04.</li> </ol>	
						115-					<ol> <li>Borehole geophysics donducted on 6/11/04.</li> <li>Monitoring well constructed in boring (see well completion summary).</li> </ol>	
						120-		_				
											onditions encountered and applies only at the	

BORING NO .:

GLA-B

PAGE:

1 OF

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL

DATE STARTED: 6/09/04 DATE FINISHED: 6/10/04 ELEVATION: 430149.38

GW DEPTH: 40.66 feet TOTAL DEPTH: 91.5 feet

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS LOGGED BY: W. LOPEZ, CHG/A. FYODOROVA

NORTHING: 1737940.66 EASTING: 344.14

TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (%)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	FEE	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
15:57						5		_	nenionus des des des des des des des des des de	SM	COLLUVIUM: Dark yellowish brown (10YR 4/4), fine, poorly graded SILTY SAND.	Slightly moist.
16:00 16:25									S WEST OF THE			
						10-		_	ANONIBARONOSE		(10') — grain size increase to fine to coarse with fine GRAVEL; well graded.	Moist.
16:37 6/10 8:11			:			15		_	# IS	<i>\</i>	WEATHERED BEDROCK: Light olive brown (2.5Y 5/4), fine, highly weathered with iron-oxide staining and alteration of feldspars to CLAY, poorly indurated GRANODIORITE (GRUSS).	Moist.
						20		_			(22-25') — color change to strong brown (7.5YR 5/6); grain size increase to fine to	
8:14 8:26 8:28 8:35						25		_			coarse.	(26') — set conductor casing.
						30-		-				
						35		-			(35') — color change to olive brown (2.5Y 4/3).	Very moist.
8:41 9:21					, , , , , , , , , , , , , , , , , , ,	40		<b>▼</b> □				(42') — sound for water,
						45		-				wet at bottom of boring.
						50		-				(52'-60') - very moist.
The and	data p at the	resente time	ed on to of drilling	his log ng. Sut	is a si surface	mplifi cond	cation litions	of may	actu diff	al co fer a	CONTINUED ON NEXT PAGE onditions encountered and applies only at the tother locations and may change with the p	location of this boring assage of time.

BORING NO.:

GLA-B

PAGE: 2 OF

JOB NO.: 9539
SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS LOGGED BY: W. LOPEZ, CHG/A. FYODOROVA

DATE STARTED: 6/09/04 DATE FINISHED: 6/10/04 ELEVATION: 430149.38 NORTHING: 1737940.66 **EASTING: 344.14** 

GW DEPTH: 40.66 feet TOTAL DEPTH: 91.5 feet

		9900 8	i. n. c	UFEZ, C	HG/A. P	IODON	UVA				EASTING: 344.14	·
TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	111	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
						55-						(52'–60') – very moist.
9:30 10:12						60		-			(60') — medium to coarse.	(62") — sound for water, water measured at 57.75
				and the state of t		65					(65') — fine to medium.	feet.
						70					(71') — fine, moderately weathered.	
			ADOPAN AND AND AND AND AND AND AND AND AND A			75 80		-			(76') — fine to coorse.	Moist. (80') – free water.
10:22 10:27						85						
10:49						90					UNWEATHERED BEDROCK: Gray (N5-N6), medium to coarse, very well indurated GRANODIORITE/TONALITE with euhedrol crystals.	~~~~~
						95		-			Notes:  1. Total depth of boring 91.5 feet (refusal with tri-cone bit). 2. Groundwater first encountered at 42 feet on 6/10/04; static water level measured at 40.66 feet on 6/11/04. 3. Borehole geophysics conducted on 6/11/04. 4. Groundwater monitoring well constructed in boring (see well completion summary).	

BORING NO.:

GLA-C

PAGE: 1 OF

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS LOGGED BY: A. FYODOROVA

DATE STARTED: 6/10/04 DATE FINISHED: 6/11/04 ELEVATION: 430101.73 NORTHING: 1737809.29 **EASTING: 340.76** 

GW DEPTH: 40.14 feet TOTAL DEPTH: 81 feet

			,							EASTATO. STO.70	•
TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
16:46 6/11 7:42 8:01 8:07	BOXY CUI	TISIOM (%)	(COUNT)	SAMPLE	SAMPLE	HL630 0 5 10 15 20 40 45	I ELEVAT	CENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTENCENTEN		TOPSOIL: Brown (75YR 4/3), fine to coarse, well graded SILTY SAND. COLLUVIUM: Strong brown (7.5YR 5/6), fine to medium, moderately graded SILTY SAND(6') — well indurated. (10') — GRAVEL and COBBLES predomiately apolite and metavolcanics.  WEATHERED BEDROCK: Strong brown (7.5YR 5/6), fine to coarse, highly weathered with alteration of feldspars to CLAY, poorly indurated GRANODIORITE (GRUSS)(17') — pegmatite dike(18'-19') — apolite dike(20') — becomes moderately weathered with slight iron—axide staining. (24'-25') — pegmatite dike(26'-27') — diabase/mafic dike, highly weathered to CLAY.	Dry.
8:14 8:55						50	_				(50') — wait 30 minutes sound for water; water measured at 46.7'.

GLA-C BORING NO .:

> PAGE: 2 OF 2

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: A. FYODOROVA

DATE STARTED: 6/10/04 DATE FINISHED: 6/11/04 ELEVATION: 430101.73

GW DEPTH: 40.14 feet TOTAL DEPTH: 81 feet

NORTHING: 1737809.29 EASTING: 340.76

		GOED BI	r: A. F)	IODORO	VA						EASTING: 340.76	
TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN		ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
8:55 9:02						50- 55- 60-					(55'-56') - color change to olive brown (2.5Y 4/3).	(50') — wait 30 minutes sound for water; water measured at 46.7'.
9:08						65 70					(67') — slightly to moderately weathered.	(63'-67') – no cuttings return. Moist.
						75-					(75') — slightly weathered.	(72') – very moist. (77') – wet.
9:19						80- 85-					Notes:  1. Total depth of boring 81.0 feet; borehole open to 77.5 feet. 2. Groundwater first encountered at 46.7 feet; static water level measured at 40.14 feet on 6/11/04. 3. Borehole geophysics conducted on 6/18/04.	
						90 95-		_			4. Groundwater monitoring well constructed in boring (see well completion summary).	
The	data	present	ed on	this log	) is a s	100	icatio	n of	actu	ial co	onditions encountered and applies only at the	location of this boring

and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

BORING NO.:

GLA-D

1 OF 3 PAGE:

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: W. LOPEZ, CHG

DATE STARTED: 6/07/04 DATE FINISHED: 6/08/04 ELEVATION: 429775.68 NORTHING: 1737341.82 EASTING: 364.77

GW DEPTH: 59.5 feet TOTAL DEPTH: 146.2 feet

				μ.					Γ.	유_	DOI:10. 004.77	
TIME	DRY DENSIT (LBS/CU. FT	MOISTURE (X)	BLOWS (COUNT/FT.	SAMPLE SIZE (INCHES)	SAMPLE NO	DEPTH IN	1	ELEVATION IN FEET	MATERIAL	USCS/GEOLOG FORMATION	DESCRIPTION	COMMENTS
14:25						0		_		SC	SOIL: Dark reddish brown (5YR 3/3), fine, poorly graded CLAYEY SAND.	Moist.
						5					WEATHERED BEDROCK: Olive brown (2.5Y 4/3) to brown (10YR 4/3), fine, highly weathered with iron-oxide staining, poorly indurated TONALITE (GRUSS) with GRANODIORITE dikes composed of quartz and	Slightly moist.
14:32 15:00						10					feldspar phenocrysts.	
15.10						15-			THE STATE OF THE S		(15') — fine to medium; increasing felsic minerals.	(18') - set conductor
15:12 15:18						20-		_			(22') — moderately weathered with some highly weathered intervals.	casing.
						25-						
						30				~~	BEDROCK: Brown (10YR 4/3) to block (N2.5), fine to medium, hornblend and quartz rich, moderately indurated TONALITE.	Ory.
15:30 16:02						35						Switch to downhole
16:09						40		<u>-</u>				hammer.
16:15						45		-			(50)	
						55-		-			(50') - color change to black (N2.5).	
						60-		<u> </u>				(60') – dry.
											CONTINUED ON NEXT PAGE	(ov ) = diy.

BORING NO.:

GLA-D

PAGE: 3

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL

DATE STARTED: 6/07/04 DATE FINISHED: 6/08/04 ELEVATION: 429775.68

GW DEPTH: 59.5 feet TOTAL DEPTH: 146.2 feet

NORTHING: 1737341.82

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: W. LOPEZ, CHG **EASTING: 364.77** 

TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	Į,	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
						60-		_			same as above.	(60') – dry.
					-							
16:30 16:35						65-						
						70-	ļ	_				
						75						
						-						
						80-						
16:55												
17:05						85-						
						90-		-				
						95-		-				
						100-		_			(100, 110)	(98') - very moist to slightly wet cuttings.
											(100–110') — very well indurated.	
47.50						105-		<u></u>				
17:50 6/08 7:25								<u>-</u> \(				(105.6') — first water encountered.
7:25												encountered.
						110		-				
						115		-				
								ļ				
						120		-				
The	data	present	ed on	this loc	1 18 0 5	implifi	catio	n of	acti	ial co	CONTINUED ON NEXT PAGE inditions encountered and applies only at the	location of this boring

BORING NO.:

GLA-D

PAGE: 3 OF 3

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL

DATE STARTED: 6/07/04 DATE FINISHED: 6/08/04 ELEVATION: 429775.68 NORTHING: 1737341.82 EASTING: 364.77

GW DEPTH: 59.5 feet TOTAL DEPTH: 146.2 feet

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: W. LOPEZ, CHG

ПМЕ	ORY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	FI EVATION	IN FEET	MATERIAL Symbol	ISCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
8:08 8:18	DRY DENS (LBS/CU. I	RUISTINM (X)	BLOWS (COUNT/R	SAMPLE S		125 130 135 140 155 160			MATERIA	USSS)	Notes:  1. Total depth of boring 146.2 feet. 2. Groundwater first encountered at 105.6 feet on 6/7/04, static water level measured at 59.5 feet on 6/21/04. 3. Borehole geophysics conducted on 6/11/04. 4. Monitoring well constructed in boring (see well completion summary).	(130') ~ cuttings are damp(142') — very moist.
		7770000	The state of the s			175					onditions encountered and applies only at the	

and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

#### GeoLogic Associates BORING NO .: GLA-E Boring Log PAGE: 1 OF DATE STARTED: 7/14/04 DATE FINISHED: 7/15/04 JOB NO.: 9539 GW DEPTH: 152.80 feet SITE LOCATION: GREGORY CANYON LANDFILL TOTAL DEPTH: 152,85 feet DRILLING METHOD: AIR ROTARY ELEVATION: ND CONTRACTOR: WDC EXPLORATION AND WELLS NORTHING: ND LOGGED BY: W. LOPEZ, CHG EASTING: ND AMI DRY DENSITY (LBS/CU, FT.) BLOWS (COUNT/FT. DEPTH FEET DESCRIPTION COMMENTS 16:58 Dry. Brown (7.5YR 5/4), fine to medium, poorly graded SILTY SAND. WEATHERED BEDROCK: Dry. Brown (7.5YR 5/4) to strong brown (7.5YR 5/6), fine to medium, moderately weathered, moderately indurated TONALITE (GRUSS) with GRANODIORITE dikes. 10 BEDROCK: Dry. Olive brown (2.5Y 5/4), fine to coorse, well indurated, unweathered TONALITE. ...(13') - color change to dark gray (7.5YR 4/1) to (5Y 4/1). 17:30 ...(16') - set conductor 6/15 8:10 casing, switch to downhole hammer. 8:13 20 8:25 25 ...(25') – slightly moist.

30 8:33 40-8:39 ...(45') - dry. 50 8:49 60-8:51 CONTINUED ON NEXT PAGE

#### GeoLogic Associates BORING NO.: GLA-E Boring Log PAGE: DATE STARTED: 7/14/04 DATE FINISHED: 7/15/04 GW DEPTH: 152.80 feet JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL TOTAL DEPTH: 152.85 feet DRILLING METHOD: AIR ROTARY CONTRACTOR: WDC EXPLORATION AND WELLS ELEVATION: ND NORTHING: ND LOGGED BY: W. LOPEZ, CHG EASTING: ND DRY DENSITY (LBS/CU. FT.) SAMPLE SIZE (INCHES) MOISTURE (X) COUNT/FT DESCRIPTION COMMENTS 60 8:51 ..same as obove. 8:53 Dry. 9:10 ...(65') - minor iron-oxide staininia. 70 9:20 80 9:27 ...(80') - color change to gray (N5-N6); very Dry. well indurated. 85 90 9:44 100-9:50 ...(100') - dry. 105-110-

The data presented on this log is a simplification of actual conditions encountered and applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

...(120') - dry.

CONTINUED ON NEXT PAGE

120

10:10

10:28

BORING NO .: GLA-E

PAGE: 3 OF

JOB NO.: 9539 SITE LOCATION: GREGORY CANYON LANDFILL DRILLING METHOD: AIR ROTARY AIR ROTARY
WDC EXPLORATION AND WELLS DATE STARTED: 7/14/04 DATE FINISHED: 7/15/04 ELEVATION: ND

GW DEPTH: 152.80 feet TOTAL DEPTH: 152.85 feet

CONTRACTOR: LOGGED BY: W. LOPEZ, CHG NORTHING: ND EASTING: ND

TIME	1	MOISTURE (X)	BLOWS (COUNT/FT.)	SAUPLE SIZE (INCHES)	SAMPLE NO.		ELEVATION IN FEET	MATERIAL	USCS/GEDLOCIC FORMATION	DESCRIPTION	COMMENTS
10:52 11:03	1	NOISION (X)	(COUNT)	SAMPLE:		125- 130- 140- 150- 155- 160- 170- 175-	ELEWATIC	MATERN		DESCRIPTION (142') — well indurated.  Notes:  1. Total depth of boring 152.85 feet. 2. Groundwater first encountered at 152.8'. 3. Borehole geophysics conducted on 7/20/04.	(120') — dry. (140') — dry.  Stop for 2 hours, sound for water, wet at bottom of boring.
					1	80	•				

BORING NO.:

GLA-F

3 PAGE: 1 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: W. LOPEZ, CHG

DATE STARTED: 7/16/04 DATE FINISHED: 7/16/04

ELEVATION: ND NORTHING: ND EASTING: ND

GW DEPTH: 164.8 feet TOTAL DEPTH: 165.5 feet

TIME	dry density (LBS/Cu. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN		ELEVATION IN FEET	MATERIAL SYMBOL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
7:30						0			ASS.		SOIL: Strong brown (7.5YR 5/6), fine to medium, poorly graded SILTY SAND.	Dry.
						5		<b></b>			WEATHERED BEDROCK: Dark brown (7.5YR 3/4), fine to medium, highly weathered with iron—oxide staining and alteration of feldspars to CLAY, poorly indurated TONALITE (GRUSS).	Moist.
					The state of the s	10					Olive brown (2.5Y 4/3), fine to medium, moderately weathered, poorly to moderately indurated TONALITE.	Moist.
						15		<del></del>		:		(17') - set conductor casing, switch to downhole
						20		<del></del>				hommer(20') - dry.
8:05 8:13						25		_				
						30		_		~	BEDROCK: Gray (2.5Y 4/1), fine to medium, unweathered, well indurated TONALITE.	Dry.
						35						
						40		<del></del>				
8:20 8:26						45		<b></b>			(45') — very well indurated.	
						50-		_				
						55-		_				
						60-						
							$\vdash$			<del> </del>	CONTINUED ON NEXT PAGE	
The	data Lat th	presen e time	ted on of dril	this k	og is a ubsurfac	e con	ficatio dition	n ol	act ay d	ual c iffer	conditions encountered and applies only at the at other locations and may change with the	location of this boring passage of time.

BORING NO .:

GLA-F

PAGE: 2 OF 3

JOB NO.: DRILLING METHOD:

SITE LOCATION: GREGORY CANYON LANDFILL
BILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS

DATE STARTED: 7/16/04 DATE FINISHED: 7/16/04 ELEVATION: ND

GW DEPTH: 164.8 feet TOTAL DEPTH: 165.5 feet

LOGGED BY: W. LOPEZ, CHG

NORTHING: ND EASTING: ND

NME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
						60				same as above.	
8:40 8:48						65	-		:		
						70					
						/					
						75	-				(75') — dry.
						80	<u> </u>				
											(83') - dry.
9:03 9:09						85	+				
						90	-				
						95					
						100					
9:25 9:35						105	-				(103') - dry.
,.55											
						110					
						115	-				
						120					
										CONTINUED ON NEXT PAGE	

and at the time of drilling. Subsurface conditions may differ at other locations and may change with the passage of time.

BORING NO.:

GLA-F

PAGE: 3 3 OF

JOB NO.: 9539 SITE LOCATION:

GREGORY CANYON LANDFILL

DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: W. LOPEZ, CHG

DATE STARTED: 7/16/04 DATE FINISHED: 7/16/04

ELEVATION: ND NORTHING: ND

GW DEPTH: 164.8 feet TOTAL DEPTH: 165.5 feet

	LC	GGED B	Y: W. L	OPEZ, (	CHG					EASTING: ND	
TIME	ORY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	ELEVATION IN FEET	MATERIAL	USCS/GEDLOGIC FORMATION	DESCRIPTION	COMMENTS
9:55 10:02						120	-			same as above.	(123') – dry.
10:02						130	-				
						135	-				
						140	-				
10:24 10:30						145	-				(146') – very moist.
						155	-				
						160					
10:45						165	꼬			Notes:	
						170				<ol> <li>Total depth of boring 165.5 feet.</li> <li>Groundwater first encountered at 164.8'.</li> <li>Borehole geophysics conducted on 7/20/04.</li> </ol>	
						175					
						180					

BORING NO.:

GLA-G

1 OF 2

PAGE:

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: W. LOPEZ, CHG

DATE STARTED: 7/20/04 DATE FINISHED: 7/20/04 ELEVATION: 430247.55 NORTHING: 1737961.72 EASTING: 345.04

GW DEPTH: 40.18 feet TOTAL DEPTH: 104 feet

<u> </u>	COOCLU DI: N. LOPEZ, CRO									EXCITIO. CTC.CT	,
TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	ELEVATION	MATERIAL SYMBOI	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
9:40						5		STEENSTEENSTEENSTEENSTEENSTEENSTEENSTEE	SM	COLLUVIUM: Strong brown (7.5YR 4/6), fine to coarse, well graded SILTY SAND with iron—oxide stoining.	Dry.
						10		WANTED WATER		(8') — color change to brown (7.5YR 5/4).	Moist.
						15		NATIONAL PARTIES	THE PROPERTY OF THE PROPERTY O	(12') — color change to strong brown (7.5YR 5/6) (13-16') — GRANODIORITE BOULDER.	(16') - set conductor
10:13 10:21						20		AKAN SE		WEATHERED BEDROCK: Brown (7.5YR 4/4), fine to coarse, highly weathered with iron-oxide staining and	(20') - switch to downhole hammer.
10:24 10:29						25				atteration of feldspars to CLAY, poorly indurated GRANODIORITE(24') — color change to light yellowish brown (2.5Y 6/4).	
		***************************************				30		ARREVOLLE PRILITALITAL COLONIA VIII COLONIA CO			
						35		<b>,</b>		(35') — color change to olive brown (2.5Y 4/3) to dark grayish brown (2.5Y 4/2); moderately weathered, poorly indurated, little to no CLAY.	
10:36 10:41						45					
						50-					(48') – very moist.
						55					
				***************************************		60				(60') — fine to medium.	
										CONTINUED ON NEXT PAGE	

BORING NO.:

GLA-G

2 PAGE:

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: AIR ROTARY
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: W. LOPEZ, CHG

DATE STARTED: 7/20/04 DATE FINISHED: 7/20/04 ELEVATION: 430247.55 NORTHING: 1737961.72 EASTING: 345.04

GW DEPTH: 40.18 feet TOTAL DEPTH: 104 feet

		V, C2, \						CO1810. 010.01			
TIME	ORY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN	ELEVATION	MATERIAL MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
						60-11				(60') - fine to medium.	
10:46								***************************************			
10:51						65				(65'-70') - color change to pale yellow (2.5Y 7/4); medium to coarse.	(65') — very moist to slightly wet.
						70				(70') — color change to yellowish brown (10YR 5/8); fine to medium.	
						75-		-			
						/3		-			
						80-					
10:56 11:02				-		85	<u> </u>	Z		(85') — color change to dark grayish brown	(85') — first water
										(2.5Y 4/2); fine to coarse.	encountered.
						90-		:			
											(93') - slightly wet.
					***************************************	95	$\Rightarrow$				
						100					
11:07						105			-	Notes:	
		***************************************				103				Total depth of boring 104 feet.     Groundwater first encountered at 85 feet.	
		Ī				110				on 7/20/04; static water level measured at 40.18 feet on 7/22/04.	
										<ul><li>3. Borehole geophysics conducted on 7/20/04.</li><li>4. Groundwater monitoring well constructed on</li></ul>	
						115	_			7/21/04 (see well completion summory).	
						120					

BORING NO .:

LUCIO-2R

PAGE: 1 OF

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: HOLLOW STEM AUGER
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: W. LOPEZ, CHG

DATE STARTED: 6/03/04 DATE FINISHED: 6/03/04 ELEVATION: ND NORTHING: ND

GW DEPTH: 12.5 feet TOTAL DEPTH: 50 feet

	LO	TRACTO	R: WDC Y: W. L	EXPLOR OPEZ, (	KATION AN CHG	ID WELLS				NORTHING: ND EASTING: ND	
TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
8:33						5		-XIONESKONGOKONGONGO	SM	ALLUVIUM: Brown (10YR 4/2), fine to coarse, well graded SILTY SAND with GRAVEL. GRAVEL is subrounded to subangular.	Slightly moist(5') - moist.
				milior in delicorem delico		15	<b>__</b>	AVOINERSONERS NEWSTRAN			
8:45						20		111	SW	Dark gray (10YR 4/1), well graded, fine to coarse SAND with fine to medium, subrounded to subangular GRAVEL.	Wet.
8:54						30					
8:58					and the state of t	35					(40') - saturoted.
0.00						45					(40 ) ~ Sulbroked.
9:03						50				Notes:  1. Total depth of boring 50 feet. 2. Groundwater measured at 12.5 feet.	
						55				Groundwater monitoring well constructed on 6/3/04 (see well conmpletion summary).	
										CONTINUED ON NEXT PAGE	

BORING NO .: SLRMWD-34R

PAGE:

JOB NO.: 9539

SITE LOCATION: GREGORY CANYON LANDFILL
DRILLING METHOD: HOLLOW STEM AUGER
CONTRACTOR: WDC EXPLORATION AND WELLS
LOGGED BY: W. LOPEZ, CHG

E STARTED: 6/03/04 E FINISHED: 6/03/04 ELEVATION: ND DATE STARTED: DATE FINISHED:

NORTHING: ND EASTING: ND

GW DEPTH: 12.6 feet TOTAL DEPTH: 30 feet

TIME	DRY DENSITY (LBS/CU. FT.)	MOISTURE (X)	BLOWS (COUNT/FT.)	SAMPLE SIZE (INCHES)	SAMPLE NO.	DEPTH IN FEET	ELEVATION IN FEET	MATERIAL	USCS/GEOLOGIC FORMATION	DESCRIPTION	COMMENTS
12:20						5		NYSXEDANSXEE	SM	ALLUVIUM: Yellowish brown (10YR 5/4), fine, poorly groded, micaceous SILTY SAND.	Dry.
						10		orensersen			(5') – slightly moist.
12:28						15	<u></u>	SIONUS SI		(12') — fine to coarse with trace of fine to medium, subgrounded GRAVEL.	(14') - wet.
						20		ONKONONNONONONONO			(20') — soturated.
						25		<u> </u>	SW	Dark gray (10YR 4/1), fine to coarse SAND with trace of subrounded GRAVEL.	
12:40						30	1			Notes:	
						35				<ol> <li>Total depth of boring 30 feet.</li> <li>Groundwater measured at 12.6 feet.</li> <li>Groundwater monitoring well constructed on 6/3/04 (see well completion summary).</li> </ol>	
						40					
						45					
						50					
						55					
						60	-				
										CONTINUED ON NEXT PAGE	
The	data p	resente	d on t	his loc	is a s	implificati	on of	acti	ual co	onditions encountered and applies only at the at other locations and may change with the p	location of this boring